

Andrew Ang

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Biography



Andrew Ang is the Ann F. Kaplan Professor of Business and Chair of the Finance and Economics Division at Columbia Business School. He is a financial economist whose work centers on understanding the nature of risk and return in asset prices. His research spans bond markets, equities, asset management and portfolio allocation, and alternative investments. Prof. Ang received a Bachelor of Economics with First Class Honours from Macquarie University, Sydney, and a Masters of Statistics and PhD in Finance from Stanford University. Prof.

Ang's recent book, "Asset Management: A Systematic Approach to Factor Investing" published by Oxford University Press in 2014, is a comprehensive guide showing how factor risk premiums can be harvested in portfolio design and incorporated in all aspects of investment management.

Academic Interests

Research: Finance, Asset Pricing, Investment Management

Teaching: Asset Management, MBA

Capital Markets and Investments, MBA and EMBA

Empirical Asset Pricing, PhD

Quantitative Investments, MBA

Current Academic Appointments

Columbia Business School

2009-present Ann F. Kaplan Professor of Business

2011-present Academic Advisory Board Member, Program for Financial Studies at Columbia Business School

2011-present Academic Advisory Board Member, Richard Paul Richman Center for Business, Law, and Public Policy at Columbia University

2010-present Chazen Senior Scholar

Other Appointments

2012-present	Affiliated Faculty	Institute for Data Sciences and Engineering, Columbia University
2010-present	Research Fellow	Netspar
2009-present	Research Affiliate	Volatility Institute, Stern School of Business
2006-present	Research Associate	National Bureau of Economic Research (NBER)

Past Academic Appointments

Columbia Business School

2011-2014	Chair, Finance and Economics Division
2009-2011	Research Director, Program for Financial Studies
2005-2008	Director, Finance PhD Program
2007-2009	Professor
2005-2007	Associate Professor (with tenure)
2004-2005	Roger F. Murray Associate Professor of Finance
2002-2004	Associate Professor
1999-2002	Assistant Professor

Other Appointments

2001-2006	Faculty Research Fellow	NBER
2004-2005	Visiting Associate Professor	Marshall School of Business, University of Southern California
1996-1999	Research/Teaching Assistant	Stanford Graduate School of Business

Education

1999	Ph.D., Finance	Graduate School of Business, Stanford University
1997	M.S., Statistics	Stanford University
1994	B.Ec., First Class Honours	Macquarie University, Australia

Awards, Grants, and Honors

Thomson Reuters Highly Cited Researcher, 2014
 aiCIO Top 10 Most Influential Academics in the Institutional Investing World, 2013
 Dean's Award for Teaching Excellence in an Elective Course, 2012
 Second Prize, Roger F. Murray Prize Competition, 2011
 Netspar Theme Grant 2011-2014
 Chazen Institute and Columbia University CIBER Grant 2010
 Centre for Hedge Fund Research (CHFR) at Imperial College London Grant 2009
 INQUIRE Europe Grant 2009
 Second Prize, Crowell Memorial Prize Competition 2005

BSI GAMMA Foundation Grant 2004
Chazen Fellowship 2003 (Columbia Business School)
INQUIRE Europe First Prize 2002
INQUIRE UK Grant 2002
Second Prize, Roger F. Murray Prize Competition, 2002
National Science Foundation (NSF) Grant 2002-2007
First Prize, Chicago Quantitative Alliance Academic Paper Competition 2001
First Prize, Crowell Memorial Prize Paper Competition 2001
Q-Group Grant 2001
INQUIRE Europe Grant 2001
First Prize, International Investment Forum Paper Competition 2000
Chazen Fellowship 1999 (Columbia Business School)
Eugene Lang Fellowship 1999 (Columbia Business School)
Jaedicke Merit Fellowship 1997 (Stanford Business School)
Reddington Prize 1997 (Society of Actuaries)
Macquarie University Medal 1994
Actuarial Management Prize 1994 (Macquarie University)
Macroeconomics Prize 1993 (Macquarie University)
Prize for Actuarial Studies 1993 (Macquarie University)
AMP Actuarial Scholarship 1991-1994 (for studies at Macquarie University)

Associate Editor Positions

Accounting and Finance, 2000-2002
Emerging Markets Review, 2006-2013
Review of Financial Studies, 2005-2008
Journal of Business and Economic Statistics, 2006-2012
Journal of Empirical Finance, 2005-2011
Journal of Finance, 2007-2012
Journal of Financial and Quantitative Analysis, 2006-2011
Journal of Financial Econometrics, 2009-2011
Pacific-Basin Finance Journal, 2006-2013

Other Positions

Current service:

Member, Alternative Investment Forum (AIF) Academic Advisory Board, since 2013
Consultant, Canada Pension Plan Investment Board (CPPIB), since 2014
Member, FTSE Global Advisory Board, since 2009
Member, Martingale Asset Management Academic Advisory Board, since 2010
Co-Chair, National Institute for Public Finance Academic Board, since 2014
Member, Society of Quantitative Analysts Advisory Board, since 2011
Member, Investment Advisory Council UAW Retiree Medical Benefits Trust, since 2013

Past service (last five years):

Member, Norwegian Ministry of Finance Expert Panel, 2007-2014

Book

1. *Asset Management: A Systematic Approach to Factor Investing*, 2014, Oxford University Press.

Journal Articles

(Reverse chronological order)

2. "Portfolio Choice with Illiquid Assets," with Dimitris Papanikolaou and Mark M. Westerfield, 2014, *Management Science*, 60, 11, 2737-2761. Funded by Netspar. Second Prize, Roger F. Murray Prize Competition, 2011.
3. "Asset Allocation and Bad Habits," with Amit Goyal and Antti Ilmanen, 2014, *Rotman International Journal of Pension Management*, 7, 2, 16-26.
4. "The Joint Cross Section of Stock and Option Returns" with Byeong-Je An, Turan Bali, and Nusret Cakici, 2014, *Journal of Finance*, 69, 5, 2279-2337. Funded by Netspar.
5. "Asset Pricing in the Dark: The Cross Section of OTC Stocks," with Assaf Shtauber and Paul C. Tetlock, 2013, *Review of Financial Studies*, 26, 12, 2985-3028. Funded by Netspar.
6. "Lowering Borrowing Costs for States and Municipalities Through CommonMuni," with Richard C. Green, 2013, *Municipal Finance Journal*, 34, 3, 43-94. Also published as Discussion Paper 2011-01, The Hamilton Project, Brookings Institution. Funded by The Hamilton Project.
7. "Liability Driven Investment with Downside Risk," with Bingxu Chen and Suresh M. Sundaresan, 2013, *Journal of Portfolio Management*, 40, 1, 71-87. Funded by Netspar.
8. "Searching for a Common Factor in Public and Private Real Estate Returns," with Neil Nabar and Samuel Wald, 2013, *Journal of Portfolio Management*, 39, 5, 120-133. Funded by Netspar.
9. "Systemic Sovereign Default Risk: Lessons from the U.S. and Europe," with Francis A. Longstaff, 2013, *Journal of Monetary Economics*, 60, 5, 493-510. Funded by Netspar.
10. "Investing in Private Equity," with Morten Sorensen, 2013, *Alternative Investment Analyst Review*, 2, 1, 21-31.
11. "Risk, Returns, and Optimal Holdings of Private Equity: A Survey of Existing Approaches," with Morten Sorensen, 2012, *Quarterly Journal of Finance*, 2, 3, DOI: 10.1142/S2010139212500115. Funded by Netspar.

12. "Regime Changes in Financial Markets," with Allan Timmermann, 2012, *Annual Review of Financial Economics*, 4, 313-337. Funded by Netspar.
13. "Testing Conditional Factor Models," with Dennis Kristensen, 2012, *Journal of Financial Economics*, 106, 1, 132-156. Funded by Netspar.
14. "Inflation and Individual Equities," with Marie Brière and Ombretta Signori, 2012, *Financial Analysts Journal*, 68, 4, 36-55. Funded by Netspar.
15. "Predicting Dividends in Log-Linear Present Value Models," 2012, *Pacific-Basin Finance Journal*, 20, 1, 151-171.
16. "The Efficient Market Theory and Evidence: Implications for Active Investment Management," with William N. Goetzmann and Stephen M. Schaefer, 2011, *Foundations and Trends in Finance*, 5, 3, 157-242.
17. "Monetary Policy Shifts and the Term Structure," with Jean Boivin, Sen Dong, and Rudy Loo-Kung, 2011, *Review of Economic Studies*, 78, 2, 429-457. Funded by the NSF.
18. "Locked Up by a Lockup: Valuing Liquidity as a Real Option," with Nicolas P. B. Bollen, 2010, *Financial Management*, 39, 3, 1069-1095. Funded by the Centre for Hedge Fund Research (CHFR) at Imperial College London.
19. "Build America Bonds," with Vineer Bhansali and Yuhang Xing, 2010, *Journal of Fixed Income*, 20, 1, 67-73.
20. "Taxes on Tax-Exempt Bonds," with Vineer Bhansali and Yuhang Xing, 2010, *Journal of Finance*, 65, 2, 565-601.
21. "High Idiosyncratic Volatility and Low Returns: International and Further U.S. Evidence," with Robert J. Hodrick, Yuhang Xing, and Xiaoyan Zhang, 2009, *Journal of Financial Economics*, 61, 1, 259-299. Funded by the NSF.
22. "Do Funds-of-Funds Deserve Their Fees-on-Fees?" with Matthew Rhodes-Kropf and Rui Zhao, 2008, *Journal of Investment Management*, 6, 4, 34-58. Funded by the BSI GAMMA Foundation.
23. "The Term Structure of Real Rates and Expected Inflation," with Geert Bekaert and Min Wei, 2008, *Journal of Finance*, 63, 2, 797-849. Funded by the NSF.
24. "Is IPO Underperformance a Peso Problem?" with Li Gu and Yael V. Hochberg, 2007, *Journal of Financial and Quantitative Analysis*, 42, 3, 565-594.
25. "Risk, Return and Dividends," with June Liu, 2007, *Journal of Financial Economics*, 85, 1, 1-38. Funded by the NSF.
26. "Stock Return Predictability: Is it There?" with Geert Bekaert, 2007, *Review of Financial Studies*, 20, 3, 651-707. Funded by the NSF.

27. "Do Macro Variables, Asset Markets or Surveys Forecast Inflation Better?" with Geert Bekaert and Min Wei, 2007, *Journal of Monetary Economics*, 54, 1163-1212. Funded by the NSF.
28. "CAPM Over the Long Run: 1926-2001," with Joseph S. Chen, 2007, *Journal of Empirical Finance*, 14, 1, 1-40.
29. "Downside Risk," with Joseph S. Chen and Yuhang Xing, 2006, *Review of Financial Studies*, 19, 1191-1239. Second prize Crowell Memorial Prize Competition 2005. Funded by the Q-Group.
30. "A New Measure for Measuring," with Matthew Rhodes-Kropf and Rui Zhao, 2006, *Institutional Investor's Alpha*, July/August, 40-45. Funded by the BSI GAMMA Foundation.
31. "What Does the Yield Curve Tell us about GDP Growth?" with Monika Piazzesi and Min Wei, 2006, *Journal of Econometrics*, 131, 359-403. Funded by the NSF.
32. "The Cross-Section of Volatility and Expected Returns," with Robert J. Hodrick, Yuhang Xing, and Xiaoyan Zhang, 2006, *Journal of Finance*, 51, 1, 259-299. Funded by the NSF.
33. "Why Stocks May Disappoint," with Geert Bekaert and June Liu, 2005, *Journal of Financial Economics*, 76, 471-508.
34. "Do Demographic Changes Affect Risk Premiums? Evidence from International Data," with Angela Maddaloni, 2005, *Journal of Business*, 78, 1, 341-380. Funded by the NSF.
35. "How to Discount Cashflows with Time-Varying Expected Returns," with June Liu, 2004, *Journal of Finance*, 59, 6, 2745-2783. Funded by INQUIRE UK.
36. "How do Regimes Affect Asset Allocation?" with Geert Bekaert, 2004, *Financial Analysts Journal*, 60, 2, 86-99. Funded by INQUIRE Europe.
37. "A No-Arbitrage Vector-Autoregression of Term Structure Dynamics with Macroeconomic and Latent Variables," with Monika Piazzesi, 2003, *Journal of Monetary Economics*, 50, 4, 745-787. Funded by the NSF.
38. "International Asset Allocation with Regime Shifts," with Geert Bekaert, 2002, *Review of Financial Studies*, 15, 4, 1137-1187. First prize International Investment Forum Paper Competition 2000; first prize Crowell Memorial Prize Competition 2001; first prize Chicago Quantitative Alliance Academic Paper Competition 2001. Funded by the NSF.
39. "Short Rate Nonlinearities and Regime Switches," with Geert Bekaert, 2002, *Journal of Economic Dynamics and Control*, 26, 7-8, 1243-1274. Funded by the NSF.
40. "Regime Switches in Interest Rates," with Geert Bekaert, 2002, *Journal of Business and Economic Statistics*, 20, 2, 163-182. Funded by the NSF.

41. “Asymmetric Correlations of Equity Portfolios,” with Joseph S. Chen, 2002, *Journal of Financial Economics*, 63, 3, 443-494. Second Prize, Roger F. Murray Prize Competition, 2002.
42. “A General Affine Earnings Valuation Model,” with June Liu, 2001, *Review of Accounting Studies*, 6, 397-425.
43. “Interest Rate Risk Management,” with Michael Sherris, 1997, *North American Actuarial Journal*, Society of Actuaries, 1, 2, 1-26, winner of the Reddington prize, 1997.
44. “Prepayment Penalties - Why MBS Investors Demand a Premium,” 1995, *Journal of the Securities Institute of Australia*, December.

Other Articles

45. “Risk and Information in the Municipal Bond Market,” 2014, NBER Reporter, 3, 9-11.
46. “Review of the Active Management of the Norwegian Government Pension Fund Global,” with Michael W. Brandt and David F. Denison, 2014. Commissioned by the Norwegian Ministry of Finance.
47. “The Four Benchmarks of Sovereign Wealth Funds,” 2012, in *Sovereign Wealth Funds and Long-Term Investing*, Patrick Bolton, Frederic Samama, and Joseph E. Stiglitz, eds., pp. 94-105, Columbia University Press. Also printed in *Business & Management Journal*, 2011, 1, 4.
48. “Illiquid Assets,” 2011, CFA Institute Conference Proceedings Quarterly, 28, 4, 12-20.
49. “Investing for the Long Run,” with Knut N. Kjaer, 2011, in *A Decade of Challenges – A Collection of Essays on Pensions and Investments*, Tomas Franzen, ed., pp. 94-111, Andra AP-fonden, Second Swedish National Pension Fund - AP2.
50. “Price-Earnings Ratios: Growth and Discount Rates,” with Xiaoyan Zhang, 2011, in *Rethinking the Equity Risk Premium*, P. Brett Hammond, Jr., Martin L. Leibowitz, and Laurence B. Siegel, eds., pp. 130-142. Research Foundation of the CFA Institute.
51. “Report on the Active Management of the Norwegian Government Pension Fund – Global,” with William N. Goetzmann and Stephen M. Schaefer, 2009. Commissioned by the Norwegian Ministry of Finance.

Cases

52. “Saving Public Pensions: Rhode Island Pension Reform,” Columbia CaseWorks, 2013, ID#120313.

53. “GM Asset Management and Martingale’s Low Volatility Strategy,” Columbia CaseWorks, 2012, ID#110315.
54. “Factor Investing: The Reference Portfolio and Canada Pension Plan Investment Board,” Columbia CaseWorks, 2012, ID#120302.
55. “California Dreamin’: The Mess at CalPERS,” with Jeremy Abrams, Columbia CaseWorks, 2012, ID#120306.
56. “Who Watches the Watchman? New York State Common Retirement Fund,” Columbia CaseWorks, 2011, ID#110307.
57. “Stay the Course? Portfolio Advice in the Face of Large Losses,” Columbia CaseWorks, 2011, ID#110309.
58. “Is Real Estate Real?” with Lynne Sagalyn and Rona Smith, Columbia CaseWorks, 2011, ID#111704.
59. “Norway Pension Fund – Global: A Nation Reconsiders How to Manage Its Nest Egg,” with Jaan Elias, William N. Goetzmann, Jean Rosenthal, Olav Sorenson, Yale Case 2010-106.
60. “Liquidating Harvard,” Columbia CaseWorks, 2010, ID#100312.
61. “The Norwegian Government Pension Fund: The Divestiture of Wal-Mart Stores Inc.,” Columbia CaseWorks, 2008, ID#080301.
62. “The Quant Meltdown: August 2007,” Columbia CaseWorks, 2008, ID#080317.

Articles Published in the Popular Press

63. “Are Michigan and Illinois Like Greece and Ireland?” with Francis A. Longstaff, Vox EU column, May 2011.
64. “Out of the Crisis, Now What?” Columbia Business School Public Offering blog, September 2009.
65. “A Checklist for Everyday Investing,” Columbia Business School Public Offering blog, March 2009.
66. “Wall Street’s Roach Motels,” Forbes.com, October 2008.

Working Papers

67. “Using Stocks or Portfolios in Tests of Factor Models,” with June Liu and Krista Schwarz. Funded by INQUIRE Europe.

68. “Nominal Bonds, Real Bonds, and Equity,” with Maxim Ulrich. Funded by Netspar.
69. “Advance Refundings of Municipal Bonds,” with Richard C. Green and Yuhang Xing.
70. “Investment Beliefs of Endowments,” with Andrés Ayala and William N. Goetzmann. Funded by Netspar.
71. “The Muni Bond Spread: Credit, Illiquidity, and Tax,” with Vineer Bhansali and Yuhang Xing. Funded by Netspar.
72. “Estimating Private Equity Returns from Limited Partner Cash Flows,” with Bingxu Chen, William N. Goetzmann, and Ludovic Phalippou. Funded by Netspar.
73. “How Often Should You Take Tactical Asset Allocation Decisions?” with Byeong-Je An and Pierre Collin-Dufresne.
74. “The Great Wall of Debt: Credit Risk of Chinese Local Government Obligations,” with Jennie Bai and Hou Zhou.

Work in Progress

75. “Optimal Asset Allocation and Pension Liabilities,” with Pierre Collin-Dufresne and Byeong-Je An. Funded by Netspar.
76. “The Cost of Minimum Payouts for Foundations,” with Andrés Ayala and William N. Goetzmann.
77. “Stock and Bond Factors,” with Renxuan Wang.
78. “Equity Duration,” with Renxuan Wang.

Permanent Working Papers

79. “No-Arbitrage Taylor Rules,” with Sen Dong and Monika Piazzesi. Funded by the NSF.
80. “Yield Curve Predictors of Foreign Exchange Returns,” with Joseph S. Chen.
81. “When Hedge Funds Block the Exits,” with Nicolas P. B. Bollen.

Selected Professional Activities *

Conference Presentations (Last Five Years):

“Using Stocks or Portfolios in Tests of Factor Models,” INQUIRE-Europe meeting, March 2012.

* Includes presentations by co-authors and excludes internal presentations at home departments by all authors.

“Testing Conditional Factor Models,” American Finance Association, January 2010; NBER Summer Institute Forecasting and Empirical Methods in Macroeconomics and Finance, July 2010.

“The Joint Cross Section of Stocks and Options,” Financial Management Association, October 2010; CRSP Forum, November 2010; American Finance Association, January 2011; Annual International Conference on Accounting and Finance, Singapore, May 2011.

“Yield Curve Predictors of Foreign Exchange Returns,” Workshop on International Asset Pricing at the University of Leicester, June 2010; American Finance Association, January 2011; American Economics Association, January 2011; Chicago Quantitative Alliance, April 2011; Western Finance Association, June 2011; European Finance Association, August 2011.

“Active Management of the Norwegian Government Pension Fund – Global,” Q-Group Meeting, October 2010; FTSE World Investment Forum, May 2011.

“Hedge Fund Leverage,” Risk USA, November 2010; CREST-INSEE and HEC Paris 3rd Annual Conference on Hedge Funds, January 2011.

“Portfolio Choice with Illiquid Assets,” Q-Group Meeting, April 2011; USC-UCLA-UCI Finance Day, April 2011; International Association of Financial Engineers Annual Conference, June 2012; Pacific Northwest Finance Conference, November 2012; 6th Financial Risks International Forum, Liquidity Risk, March 2013; Western Finance Association, June 2013.

“Asset Pricing in the Dark: The Cross Section of OTC Stocks,” Western Finance Association, June 2011; American Finance Association, January 2014.

“Systemic Sovereign Credit Risk: Lessons from the U.S. and Europe,” NBER Summer Institute Risk of Financial Institutions, July 2011; First Annual Roundtable on Treasury Markets and Debt Management, Department of the Treasury, November 2011; Econometric Society, January 2012; USC-UCLA-UCI Finance Day, May 2012; Carnegie Rochester NYU Conference on Public Policy, November 2012; World Bank/BIS Joint Fourth Public Investors’ Conference, December 2012; American Finance Association, January 2013.

“Lowering the Cost of Borrowing for States and Municipalities,” Municipal Finance Conference at Brandeis, August 2012.

“Nominal Bonds, Real Bonds, and Equity,” German Finance Association (DGF), October 2012; 4th Bank of Canada Conference on Advances in Fixed Income Modeling, May 2013; Society for Financial Studies Finance Cavalcade, May 2013; American Finance Association, January 2014.

“Inflation and Individual Equities,” European Quantitative Forum, State Street Global Markets, September 2012.

“Searching for a Common Factor in Public and Private Real Estate Returns,” American Real Estate and Urban Economics Association (AREUA), May 2013.

“Liability Driven Investment with Downside Risk,” Netspar and Center for Financial Studies International Pension Workshop, June 2013.

“Advance Refundings of Municipal Bonds,” Norwegian Financial Research Conference, August 2013; European Finance Association, August 2013; 24th Annual Conference on Financial Economics and Accounting, UNC Chapel Hill, November 2013; NBER Asset Pricing meeting, July 2014.

“Estimating Private Equity Returns from Limited Partner Cash Flows,” Q Group, April 2014; NBER Corporate Finance meeting, April 2014; Society for Financial Studies Finance Cavalcade, May 2014; INQUIRE-UK, June 2014; Annual Private Equity Research Consortium Conference, UNC Chapel Hill, November 2014; American Finance Association, January 2015.

Conference Discussions (Last Five Years):

American Finance Association: January 2013.
NBER Asset Pricing meeting, July 2013.

Conference Committees (Last Five Years):

Finance Down Under, March 2011.
Municipal Finance Conference: since August 2013.
Western Finance Association: since June 2003.
Society of Financial Econometrics: June 2010; June 2012.

Conference Chairs (Last Five Years):[†]

Five Star Conference, NYU: December 2012.

Conferences Organized (Last Five Years):

NBER Asset Pricing: November 2011.

[†] Excludes conferences at Columbia University and affiliated centers and programs.

Invited Talks, Keynote Addresses, and Panel Sessions (Last Five Years):[‡]

“Evaluation of Active Management of the Norwegian Government Pension Fund,” Seminar organized by the Norwegian Ministry of Finance, January 2010.

“Factor Benchmarks,” Barclays Capital Quantitative Portfolio Management Conference, April 2010.

“Active vs. Passive Investing: Lessons from the Crisis for Sovereign Investors,” International Forum of Sovereign Wealth Funds, May 2010.

“Active vs. Passive Investing: The Norwegian Experience,” Asset Management Workshop, BIS and FSI, August 2010.

“Factor Benchmarks,” “Long-Term Metrics for Long-Term Investors,” “Working Together to Lower Investment Costs,” Global Symposium on Pension and Sovereign Fund Investments, World Bank, December 2010.

“Lowering the Cost of Borrowing for States and Municipalities,” State Roads to Recovery: Policies, Pavements, and Partnerships conference, The Hamilton Project/Metropolitan Program, Brookings Institution, February 2011.

“Factor Benchmarks,” BIS High-Level Meeting on Reserve Management, March 2011.

“Illiquid Assets,” CFA Institute: Financial Analysts Seminar: Improving the Investment Decision-Making Process, July 2011; Fidelity Investments, October 2011.

“Factor Investing and Illiquidity,” Canada Pension Plan Investment Board (CPPIB), October 2011.

“Harvesting Illiquidity Premiums,” Investing for the Long Run: The Investment Strategy for the Government Pension Fund Global, Norwegian Ministry of Finance, November 2011.

“Finding Alpha in Hedge Funds: Is It There?” Commonfund Forum, March 2012.

“Sovereign Credit Risk,” American Bar Association Section of International Law, April 2012.

“Investing for the Long Run (Redux),” Research Affiliates Advisory Panel, May 2012.

“Premiums and Optimal Allocation of Illiquid Assets,” FTSE World Investment Forum, May 2012.

“Sovereign and State Risk,” 8th Annual Asset Pricing Retreat, Cass Business School, June 2012.

[‡] Excludes talks at Columbia University and affiliated centers and programs.

- “Systemic Sovereign Credit Risk: Lessons from the U.S. and Europe,” Non-Standard Monetary Policy Measures: Lessons from Recent International Experience, European Central Bank, June 2012.
- “Endowment Liquidity,” Endowment Asset Management Workshop, Vienna, June 2012.
- “Investing for the Long Run,” Investment Decisions and Behavioral Finance, Kennedy School, Harvard University, November 2012.
- “Nominal Bonds, Real Bonds, and Equity,” 7th Annual Conference on Advances in the Analysis of Hedge Fund Strategies, Imperial College and London Business School, December 2012.
- “Factor Investing: Canada Pension Plan Investment Board,” CIO Management Roundtable, U.S. Institute, February 2013.
- “Investing Ideas,” UAW Medical Trust Board, March 2013.
- “Portfolio Choice with Illiquid Assets,” 6th Financial Risks International Forum, Liquidity Risk, Paris, March 2013.
- “Illiquidity Risk,” Alternative Investments Forum Portfolio Construction Session, April 2013.
- “Investing for the Long Run,” FTSE World Investment Forum, May 2013.
- “Liquidating Harvard: Portfolio Choice with Illiquid Assets,” International Center for Pension Management Discussion Forum, University of Toronto, June 2013.
- “Factor Investing,” Bank of Korea New York Representative Office Conference on Risk Factor Based Asset Allocation and its Implication for Reserve Management, June 2013.
- “Portfolio Choice with Illiquid Assets,” 13^o Encontro Brasileiro de Finanças, Rio de Janeiro, July 2013.
- “Buying Low and Selling High,” International Forum of Sovereign Wealth Funds, October 2013.
- “Factor Investing,” Portfolio Management: Current Trends in Dollar Asset Markets (Specialized Training Program), Federal Reserve Bank of New York, October 2013.
- “Asset Pricing in the Dark: The Cross Section of OTC Stocks,” Forum on Quantitative Finance, Jacobs Levy Equity Management Center for Quantitative Financial Research, Wharton, October 2013.
- “Illiquidity Premiums,” Global ARC, October 2013.
- “Investing for the Long Run,” CUNY Educational Training Program for Trustees of the New York City Pension System, December 2013.

- “What are Risk Factors?” aiCIO Influential Investor Forum, December 2013.
- “Asset Allocation with Illiquidity Risks,” 3rd Annual Risk & Liquidity, Institutional Investor Forum, January 2014.
- “Portfolio Choice and Illiquid Assets” and “Estimating Private Equity Returns from Limited Partner (Pension Fund) Cash Flows,” International Pension Workshop, Netspar, January 2014.
- “The Revolution of Factor Investing,” Factor Investing Seminar, Robeco, January 2014.
- “The Revolution of Factor Investing,” International Conference on Finance and Financial Econometrics and Engineering, Meiji University and Kyoto University, March 2014.
- “Portfolio Choice with Illiquid Assets,” Alternative Investments Forum, April 2014.
- “Illiquidity Premiums,” CFA Portfolio Management Conference, April 2014.
- “The Revolution of Factor Investing,” Nomura Global Quantitative Investment Strategies Conference, May 2014.
- “Private Equity Returns,” World Investment Forum, May 2014.
- “Private Equity Returns,” AIF Insurance Investors’ Forum, June 2014.
- “Norway: Factors and Active Management,” China Investment Corporation (CIC), State Administration for Foreign Exchange (SAFE), National Council for Social Security Fund (NCSSF), GIC Private Limited.
- “The Norwegian Government Pension Fund Case,” Endowment Institute Level II, Commonfund, July 2014.
- “Investment Beliefs of Endowments,” Endowment Asset Management Conference, Lucerne, August 2014.
- “Asset Management: A Systematic Approach to Factor Investing,” Financial Management Association, October 2014.
- “The Revolution of Factor Investing,” Fiduciary Investors Symposium, October 2014.
- “Asset Management: A Systematic Approach to Factor Investing,” CFA Toronto, November 2014.
- “Factor Investing,” Society of Quantitative Analysts, November 2014.
- “Factor, Not Asset, Allocation,” Risk Premia Conference, Deutsche Bank, November 2014.
- “Factor Investing,” Martingale Asset Management, December 2014.

Invited Presentations of Papers (Last Five Years):

“Using Stocks or Portfolios in Tests of Factor Models.” Hong Kong University of Science and Technology, May 2013.

“Testing Conditional Factor Models.” MIT, February 2010; Washington University in St Louis, April 2010; Georgetown University, April 2010; Ohio State University, March 2011; Federal Reserve Bank of New York, April 2011; Arizona State University, May 2011.

“The Joint Cross Section of Stocks and Options.” ETH Zurich, April 2010.

“Active Management of the Norwegian Government Pension Fund – Global.” Dimensional Fund Advisors, September 2010.

“Yield Curve Predictors of Foreign Exchange Returns.” Singapore Management University, May 2010; Warwick University, June 2010; University of Toronto, October 2010; UC San Diego, April 2011; Blackrock, August 2011.

“Hedge Fund Leverage.” Take 15 Session, CFA Institute, February 2011.

“Systemic Sovereign Credit Risk: Lessons from the U.S. and Europe.” Federal Reserve Bank of New York, April 2011; Federal Reserve Board of Governors, May 2011; University of Illinois, October 2011; Princeton University, November 2011; London Business School, November 2011; LSE, November 2011; Oxford University, November 2011; Financial Services Authority (FSA), November 2011; California State University Fullerton, January 2012; Morgan Stanley, January 2012; Baruch University, February 2012; European Central Bank, March 2012; Federal Reserve Bank of San Francisco, March 2012; Wharton, April 2012.

“Asset Pricing in the Dark: The Cross Section of OTC Stocks.” University of Arizona, May 2011; SEC, October 2011; Indiana University, October 2011; University of Virginia, May 2012; University of Michigan, October 2012; UNC Chapel Hill, March 2013; Stanford University, April 2013; UC Berkeley, April 2013; Federal Reserve Bank of New York, May 2013.

“Portfolio Choice with Illiquid Assets.” UNC Chapel Hill, September 2011; University of Florida, October 2011; UC Irvine, November 2011; Texas A&M University, January 2012; Bank of Canada, July 2012; London Business School, October 2012; Oxford University, October 2012.

“Regime Changes and Financial Markets,” Society of Quantitative Analysts, April 2013.

“Advanced Refundings of Municipal Bonds.” UC Davis, June 2013; Federal Reserve Bank of San Francisco, June 2013; Texas A&M, November 2013; Singapore Management University, June 2014; Hong Kong University, June 2014; Georgetown University, October 2014.

“Investment Beliefs of Endowments.” October 2013, NYU.

“Estimating Private Equity Returns from Limited Partner Cash Flows,” Princeton University, February 2014; University of Notre Dame, April 2014; University of Virginia Darden, September 2014; NYU, November 2014.

“The Great Wall of Debt: Credit Risk of Chinese Local Government Bonds,” NYU, November 2014.

PhD Students with a Significant Advisory Role

(Year of graduation and initial placement)

Byeong-Je An, Renxuan Wang: ongoing
 Andrés Ayala, expected 2015
 Bingxu Chen, 2014, QMS Capital Management
 Sergiy Gorovvy, 2012, Morgan Stanley
 Bruno Carla Giovannetti, 2011, University of Sao Paolo
 Krista Schwarz, 2010, Wharton
 Xiaozheng (Sandra) Wang, 2009, Criterion Economics
 Philippe Mueller, 2008, London School of Economics
 Frank Yu Zhang, 2008, Citigroup
 Po-Hsuan Hsu, 2007, University of Connecticut
 Rui Zhao, 2007, Blackrock
 Sen Dong, 2006, Lehman Brothers
 Li Gu, 2006, Fordham University
 Hangyong Lee, 2004, Korean Development Institute
 Stefania D’Amico, 2004, Federal Reserve Board
 Min Wei, 2004, Federal Reserve Board
 Jaehoon Hahn, 2003, University of Washington
 Angela Maddaloni, 2003, European Central Bank
 Yuhang Xing, 2003, Rice University
 Rong Qi, 2002, ING-Aeltus Asset Management
 Xiaoyan Zhang 2002, Cornell University.

MSFE Students with a Significant Advisory Role

(Year of graduation and initial placement)

Renxuan Wang, expected 2015.
 Chen Wang, 2014, PhD program, Yale School of Management
 Hervé Balmas, 2013, Bank of America Merrill Lynch

Membership of Professional Associations

American Finance Association
 Society of Financial Econometrics
 Society of Financial Studies.

Outside Activities

Paid engagements over the past five years.

Seminars and Funded Research

Bank of International Settlements (BIS), Canada Pension Plan Investment Board (CPPIB); The Common Fund for Nonprofit Organizations (Commonfund); European Central Bank (ECB); Federal Reserve Bank of New York (FRBNY); Federal Reserve Board of Governors; Fidelity Investments; Global ARC; Hamilton Project, Brookings Institution; Harvard Kennedy School; Institutional Investor; Q-Group; Nomura Securities International, Research Affiliates, World Bank.

Consulting and Advising

AllianceBernstein; Bank of America Merrill Lynch (BAML); Canada Pension Plan Investment Board (CPPIB); Folketrygdfondet; Martingale Asset Management; Norwegian Ministry of Finance; UAW Retiree Medical Benefits Trust.

Royalties

Columbia CaseWorks; Oxford University Press.