Robert A. Korajczyk November 16, 2022

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### **Current Position:**

Harry G. Guthmann Professor of Finance, Department of Finance, Kellogg School of Management, Northwestern University.

#### **Education:**

Ph.D. University of Chicago, (Finance), August 1983.

Job market paper: "The Pricing of Forward Contracts for Foreign Exchange." Thesis committee: Eugene F. Fama (Chair); Craig F. Ainsley, John Huizinga,

Merton H. Miller, Michael Mussa, Arnold Zellner.

M.B.A. University of Chicago, (Finance, Econometrics), June 1977, (B $\Gamma\Sigma$ ).

A.B. University of Chicago, August 1976, General Honors.

### **Academic Positions:**

Kellogg School of Management, Northwestern University.

Harry G. Guthmann Professor of Finance, 1995 - present.

Co-director: Center for Financial Institutions and Markets, 2005 - 2006, 2014 - present.

Director of Graduate Studies, Department of Finance, 2019 –2022.

Director: Zell Center for Risk Research, 2006 - 2013.

Senior Associate Dean: Curriculum and Teaching, 2003 - 2006, 2010 - 2011.

Chairman, Department of Finance, 1994 - 1996.

Professor of Finance, 1994 - 1995. Associate Professor, 1989 - 1994. Assistant Professor, 1982 - 1989.

Vienna University of Economics and Business (Wirtschaftsuniversität Wien) Engelbert Dockner Fellow, spring 2023.

Department of Finance, Faculty of Business and Economics, University of Melbourne Sessional Lecturer, March 2014.

Gutmann Center for Portfolio Management, Vienna University of Economics and Business (Wirtschaftsuniversität Wien)
Gutmann Fellow, fall 2010.

Gutmann Center for Portfolio Management, University of Vienna Gutmann Fellow, summer 2003, spring 2006.

School of Business & Management, Hong Kong University of Science and Technology Visiting Professor of Finance, summer 1997.

Graduate School of Business, University of Chicago.
Visiting Associate Professor of Finance, 1989-1990.
Lecturer in Finance, 1981-1982.

Current and Past Courses Taught: M.B.A. level; Corporate Finance; Investments, Asset Management. Ph.D. Level; Seminar: Empirical Methods in Finance; Seminar: Liquidity and Asset Pricing. Executive Masters Level; Investments, Corporate Finance.

#### Awards:

**Research:** Crowell Memorial Research Paper Prize: First Place. PanAgora Asset

Management Quantitative Research Institute, 2009.

New York Stock Exchange Award for Best Paper on Equity Trading presented at

the 1993 Western Finance Association annual meetings.

Best paper published in Volume 4 of the Review of Financial Studies.

**Teaching:** Sidney J. Levy Teaching Award for excellence in teaching, 1995-1996 academic

year.

Core Teaching Award, 1997-1998 academic year.

Core Teaching Award, 1999-2000 academic year.

Alumni Choice Faculty Award, 2000.

#### **Publications:**

"Semi-strong Factors in Asset Returns" (with Gregory Connor), *Journal of Financial Econometrics*, forthcoming. http://dx.doi.org/10.2139/ssrn.3419446

"Characteristic-based Returns: Alpha or Smart Beta?" (with Soohun Kim and Andreas Neuhierl), *Journal of Investment Management* **20** (First Quarter 2022): 70-89. https://joim.com/characteristic-based-returns-alpha-or-smart-beta/.

"Arbitrage Portfolios" (with Soohun Kim and Andreas Neuhierl), *Review of Financial Studies*, **34** (June 2021): 2813–2856.

https://doi.org/10.1093/rfs/hhaa102

- "Do High-Frequency Traders Improve your Implementation Shortfall?" (with Dermot Murphy), *Journal of Investment Management* **18** (First Quarter 2020): 18-33. https://joim.com/do-high-frequency-traders-improve-your-implementation-shortfall/
- "High Frequency Market Making to Large Institutional Trades." (with Dermot Murphy). *Review of Financial Studies* **32** (March 2019): 1034-1067. https://doi.org/10.1093/rfs/hhy079
- "Short-horizon beta or long-horizon alpha?" (with Avi Kamara, Xiaoxia Lou, and Ronnie Sadka). *Journal of Portfolio Management* **45** (Fall 2018): 96-105. https://doi.org/10.3905/jpm.2018.45.1.096
- "A Performance Comparison of Large-n Factor Estimators" (with Zhuo Chen and Gregory Connor).

  \*Review of Asset Pricing Studies, 8 (June 2018): 153-182.

  http://dx.doi.org/10.1093/rapstu/rax017
- "Market Timing" (with Ravi Jagannathan). In *Portfolio Construction, Measurement, and Efficiency: Essays in Honor of Jack Treynor*, edited by John Guerard, Jr. New York: Springer, 2017. https://doi.org/10.1007/978-3-319-33976-4 3
- "Horizon Pricing" (with Avraham Kamara, Xiaoxia Lou, and Ronnie Sadka). *Journal of Financial and Quantitative Analysis*, **51** (December 2016): 1769-1793. https://doi.org/10.1017/S0022109016000685
- "A Synthesis of Factor Estimation Methods." (with Gregory Connor and Robert Uhlaner). *Journal of Financial and Quantitative Analysis* **50** (August 2015): 825-842. https://doi.org/10.1017/S0022109015000307
- "Are you trading predictably?" (with Steven L. Heston, Ronnie Sadka, and Lewis D. Thorson). Financial Analysts Journal, 67 (March/April 2011): 36-44. https://doi.org/10.2469/faj.v67.n2.6
- "Intraday Patterns in the Cross-Section of Stock Returns" (with Steven L. Heston and Ronnie Sadka), *Journal of Finance* **65** (August 2010): 1369-1407. Awarded the Crowell Memorial Research Paper Prize: First Place from PanAgora Asset Management Quantitative Research Institute, 2009. https://doi.org/10.1111/j.1540-6261.2010.01573.x
- "Factor Models in Portfolio and Asset Pricing Theory" (with Gregory Connor). In *Handbook of Portfolio Construction: Contemporary Applications of Markowitz Techniques*, edited by John Guerard, Jr. New York: Springer, 2010. https://doi.org/10.1007/978-0-387-77439-8 13
- "Factor Models of Asset Returns" (with Gregory Connor). *Encyclopedia of Quantitative Finance*, edited by Rama Cont. Chicester: Wiley, 2010. https://doi.org/10.1002/9780470061602
- "Pricing the Commonality Across Alternative Measures of Liquidity" (with Ronnie Sadka). *Journal of Financial Economics* **87** (January 2008): 45-72. https://doi.org/10.1016/j.jfineco.2006.12.003

- "The Common and Specific Components of Dynamic Volatility" (with Gregory Connor and Oliver Linton). *Journal of Econometrics* **132** (May 2006): 231-255. https://doi.org/10.1016/j.jeconom.2005.01.029
- "Are Momentum Profits Robust to Trading Costs?" (with Ronnie Sadka). *Journal of Finance* **59** (June 2004), 1039-1082. https://doi.org/10.1111/j.1540-6261.2004.00656.x
- "Risk Management in Asset Management" (with Gregory Connor). Chapter 24 in *Modern Risk Management: A History*, London: Risk Publications, 2003.
- "Capital Structure Choice: Macroeconomic Conditions and Financial Constraints" (with Amnon Levy), *Journal of Financial Economics* **68** (April 2003): 75-109. https://doi.org/10.1016/S0304-405X(02)00249-0
- "Predicting Equity Liquidity." (with William Breen and Laurie Hodrick). *Management Science* **48** (April 2002): 470-483. https://doi.org/10.1287/mnsc.48.4.470.210
- "Introduction to *Review of Financial Studies* Conference on Market Frictions and Behavioral Finance" (with John Heaton), *Review of Financial Studies* **15** (2002): 353-361. https://doi.org/10.1093/rfs/15.2.353
- "A Measure of Stock Market Integration for Developed and Emerging Markets." *World Bank Economic Review* **10** (May 1996): 265-289. https://doi.org/10.1093/wber/10.2.267
- "The Arbitrage Pricing Theory and Multifactor Models of Asset Returns." (with Gregory Connor), Chapter 4 of *Finance*, Handbooks in Operations Research and Management Science, Volume 9, edited by R. Jarrow, V. Maksimovic, and W. Ziemba. Amsterdam: North Holland, 1995. https://doi.org/10.1016/S0927-0507(05)80048-9
- "Do Arbitrage Pricing Models Explain the Predictability of Asset Returns?" (with Wayne Ferson) Journal of Business 68 (July 1995): 309-349. Awarded the New York Stock Exchange Award for Best Paper on Equity Trading presented at the 1993 Western Finance Association annual meetings. Reprinted in Forecasting Financial Markets, Vol. 1, edited by Terence C. Mills. Cheltenham: Edward Elgar Publishing Limited, 2002. http://www.jstor.org/stable/2353331
- "A Test for the Number of Factors in an Approximate Factor Model." (with Gregory Connor), Journal of Finance 48 (September 1993): 1263-1291. Reprinted in The International Library Of Financial Econometrics Series, Volume II, edited by Andrew W. Lo. Edward Elgar Publishing Limited, 2007. https://doi.org/10.1111/j.1540-6261.1993.tb04754.x
- "Equity Risk Premia and the Pricing of Foreign Exchange Risk." (with Claude Viallet), *Journal of International Economics* **33** (November 1992): 199-219. https://doi.org/10.1016/0022-1996(92)90001-Z
- "Equity Issues with Time-Varying Asymmetric Information." (with Deborah Lucas and Robert McDonald), *Journal of Financial and Quantitative Analysis* **27** (September 1992): 397-417. https://doi.org/10.2307/2331327

- "The Effect of Information Releases on the Pricing and Timing of Equity Issues." (with Deborah Lucas and Robert McDonald), *Review of Financial Studies* **4** (1991): 685-708. Awarded prize for best paper published in Volume 4 of the *Review of Financial Studies*. https://doi.org/10.1093/rfs/4.4.685
- "The Attributes, Behavior, and Performance of U.S. Mutual Funds." (with Gregory Connor), *Review of Quantitative Finance and Accounting* **1** (January 1991): 5-26. https://doi.org/10.1007/BF02408404
- "Understanding Stock Price Behavior Around the Time of Equity Issues." (with Deborah Lucas and Robert McDonald), in *Asymmetric Information, Corporate Finance, and Investment* edited by R. Glenn Hubbard. Chicago: University of Chicago Press, 1990. http://www.nber.org/chapters/c11475
- "An Empirical Investigation of International Asset Pricing." (with Claude Viallet), *Review of Financial Studies* **2** (1989): 553-585. Reprinted in *International Capital Markets*, Vol. 1, edited by René M. Stulz and G. Andrew Karolyi. Cheltenham: Edward Elgar Publishing Limited, 2003. https://doi.org/10.1093/rfs/2.4.553
- "An Intertemporal Equilibrium Beta Pricing Model." (with Gregory Connor), *Review of Financial Studies* **2** (1989): 373-392. https://doi.org/10.1093/rfs/2.3.373
- "Risk and Return in an Equilibrium APT: Application of a New Test Methodology." (with Gregory Connor), *Journal of Financial Economics* **21** (September 1988): 255-289. https://doi.org/10.1016/0304-405X(88)90062-1
- "Assessing the Market Timing Performance of Managed Portfolios." (with Ravi Jagannathan), Journal of Business **59** (April 1986): 217-35. Reprinted in Asset Pricing and Portfolio Performance: Models, Strategy, and Performance Metrics. London: Risk Publications, 1999. http://www.jstor.org/stable/2353018
- "Performance Measurement with the Arbitrage Pricing Theory: A New Framework for Analysis." (with Gregory Connor), *Journal of Financial Economics* **15** (March 1986): 373-94. https://doi.org/10.1016/0304-405X(86)90027-9
- "The Pricing of Forward Contracts for Foreign Exchange." *Journal of Political Economy* **93** (April 1985): 346-368. http://www.jstor.org/stable/1832181

## Book:

Portfolio Risk Analysis (with Gregory Connor and Lisa Goldberg). Princeton: Princeton University Press, 2010. https://www.jstor.org/stable/j.ctt7sm49

### **Edited Volumes:**

- Asset Pricing and Portfolio Performance: Models, Strategy, and Performance Metrics. London: Risk Publications, 1999.
- The CAPM Controversy: Policy and Strategy Implications for Investment Management (with Diana Harrington). Charlottesville: Association for Investment Management and Research, 1993.

# **Working Papers:**

- "Non-Standard Errors" (with Albert Menkveld, Anna Dreber, Felix Holzmeister, Jürgen Huber, Magnus Johannesson, Michael Kirchler, Dermot Murphy, Sebastian Neusüss, Michael Razin, Utz Weitzel, et al.), November 16, 2022.
- "Large Sample Estimators of the Stochastic Discount Factor" (with Soohun Kim), June 21, 2022.
- "Foreign Investors, Private Information, and Price Discovery." (with Jun Cai, Richard Y. K. Ho, and Zheng Zhang). April 7, 2020.
- "On Selection Biases in Book-to-Market Based Tests of Asset Pricing Models." (with William Breen). Working Paper #167, Department of Finance, Northwestern University, July 1995.
- "Estimating Pervasive Economic Factors with Missing Observations." (with Gregory Connor), Working Paper #34, Department of Finance, Northwestern University, revised April 1987.
- "Primary Causes of Gasoline Shortages in the United States." (with Charles Phelps), Working Draft #WD-366-DOE, The Rand Corporation, October 1979.

### **Book Review:**

Review of *Market Liquidity: Asset Pricing, Risk, and Crises* by Yakov Amihud, Haim Mendelson, and Lasse Heje Pedersen. *Quantitative Finance* **14** (February 2014): 211-212. https://doi.org/10.1080/14697688.2013.826815

## Other:

- "Jeff Ubben Explains His "Anti-ESG ESG" Investment Strategy" (With Jeffrey Ubben) *Kellogg Insight*, edited by Jessica Love, (July 12, 2022). https://insight.kellogg.northwestern.edu/article/jeff-ubben-anti-esg-investment-strategy
- "In Memoriam: Louis A. Simpson" *Journal of Investment Management* **20** (2<sup>nd</sup> quarter 2022):79-80. https://joim.com/in-memoriam-louis-a-simpson/
- "When a Bunch of Economists Look at the Same Data, Do They All See It the Same Way?" *Kellogg Insight*, edited by Jessica Love, (January 7, 2022). https://insight.kellogg.northwestern.edu/article/researchers-approaches-to-data-analysis

- "Does GameStop Signal the End of Short Selling as We Know It?" (with Scott Fearon) *Kellogg Insight*, edited by Jessica Love, (January 29, 2021). https://insight.kellogg.northwestern.edu/article/gamestop-short-selling
- "How to Pick a Loser: A hedge-fund manager explains what most traders get wrong about short selling and when to go long on a diamond in the rough," (with Scott Fearon) *Kellogg Insight*, edited by Jessica Love, (March 2, 2020). https://insight.kellogg.northwestern.edu/article/how-to-pick-a-loser
- "Is Maximizing Shareholder Value a Thing of the Past?" (with Carola Frydman, Ravi Jagannathan, Jose Liberti, and Aaron Yoon) *Kellogg Insight* (September 19, 2019). https://insight.kellogg.northwestern.edu/article/shareholder-value-purpose-corporation
- "Here's to Jack Bogle: The people's champion of finance," *The Hill* (January 23, 2020). https://thehill.com/opinion/finance/426571-heres-to-jack-bogle-the-peoples-champion-of-finance
- "One of the Investment Greats' Explains His Portfolio Strategy: A Q&A with renowned investor Lou Simpson," (with Louis Simpson) *Kellogg Insight*, edited by Jessica Love, (November 2017).

  https://insight.kellogg.northwestern.edu/article/investment-great-lou-simpson-explains-portfolio-strategy
- "Universal Display Corporation: Go Long or Short?" (with Linda Vincent, Matthew Galas, Saurabh Goyal, David Mathews, Danielle Qi) Case 5-312-502 (KEL716).

### **Work in Progress:**

- "Who generates the predictability in the cross section of intraday stock returns?" (with Charlotte Haendler, Steven L. Heston, and Ronnie Sadka.
- "Global Arbitrage Portfolios" (with Soohun Kim and Andreas Neuhierl).
- "On Alpha and the Contemporaneous Estimation Bias." (with Alvin L. Stroyny and Timothy C. Wilding).
- "String-Tick Test." (with Dermot Murphy)

## Research Grants External to Kellogg - Granting Institution and Date Awarded:

Unigestion ARP Research Academy, 2018.

The Investment Industry Regulatory Organization of Canada (IIROC) – High Frequency Trading Study Grant – 2014.

Morgan Stanley Microstructure Research Grant - June 2005.

The World Bank - February 1995.

The World Bank - June 1993.

European Institute of Business Administration - November 1988.

European Institute of Business Administration - November 1986.

University Research Grants Committee - February 1985.

#### **Editorial Activities:**

**Editor:** Review of Financial Studies (1993-1996).

**Associate Editor:** Review of Financial Studies (1989 - 1993, 1997-1999), Journal of Business & Economic Statistics (1988 - 1993), Gospodarka Narodowa (2020 – present), Journal of Financial and Quantitative Analysis (1992 - 2003), Emerging Markets Quarterly (1996-2001), Journal of Empirical Finance (1991 - 2003), and Review of Quantitative Finance and Accounting (1990 - 1993).

#### **External Activities:**

Global Economics Group LLC, Chicago, Illinois. Principal, 2022-present.

DSC Quantitative Group LLC, Chicago, Illinois. Product Development Committee Member, 2012-present.

Select Innovation Investments LLC, Chicago, Illinois. Product Development Committee Member, 2004-2018.

Chicago Partners, Chicago, Illinois. Principal, 1995-2008.

The Rand Corporation, Santa Monica, California. Consultant, Economics Department, 1979-1980.

Atlantic Richfield Company, Los Angeles, California. Financial Analyst, Petroleum Products Division, 1977-1978.

I have served as a consultant to a variety of organizations. Over the past three years my clients have been a financial institution involved in FX trading and members of the Seminole Tribe of Florida.

## **Other Professional Activities:**

**Member:** American Finance Association, Society for Financial Studies, Western Finance Association, European Finance Association.

**Program Committees:** Western Finance Association, 1990 - 2019 Annual Meetings (except 1998), Associate Program Chairperson, 2012. Society for Financial Econometrics, Annual Meeting 2011, Conference on Large-scale Factor Models in Finance, 2013. Econometric Research

in Finance (ERFIN) workshop, 2018-2021. Chicago Booth-Edhec-RFS Conference on "New Methods for the Cross Section of Returns," 2018. University of Melbourne, Finance Down Under Conference, 2013-2022. American Finance Association, 1998 Annual Meeting. European Financial Management Association, 2007, 2013, 2019, 2020 Annual Meetings. European Finance Association, 2003, 2013-2019, 2021 Annual Meetings. Econometric Society, 1996 North American Winter Meeting. Conference on Financial Economics and Accounting, 1993. Financial Management Association, Competitive Awards Committee, 1994. Asia-Pacific Finance Association, 1997 annual meeting.

# **Academic Advisory Boards:**

IQAM Research Center, Vienna University of Economics and Business (Wirtschaftsuniversität Wien) and Technical University of Vienna (Technische Universität Wien), 2018-present.

Gutmann Center for Portfolio Management, Vienna University of Economics and Business (Wirtschaftsuniversität Wien), 2009-2017; University of Vienna (Universität Wien), 2002 - 2009.

Scientific Advisory Board: ITG, Inc., New York, New York, 2003-2004.

Member: BlackRock Applied Research Award Academic Panel, 2017, 2022.