
J. ISAAC MILLER

(ZACK MILLER)

millerjisaac@missouri.edu

sites.google.com/site/millerjisaac

EDUCATION

PhD, Economics, Rice University (2005)

MA, Economics, Rice University (2004)

BA *magna cum laude*, Economics and Russian, University of Pennsylvania (1998)

ACADEMIC POSITIONS

2020- Professor, Economics, University of Missouri (MU)

2025- Department Chair, Economics, MU

2019-25 Associate Department Chair, Economics, MU

2022 Academic Visitor, Nuffield College, University of Oxford

2012-20 Associate Professor, Economics, MU

2012-14 Director of Undergraduate Studies, Economics, MU

2005-12 Assistant Professor, Economics, MU

2008-09 Visiting Assistant Professor, Economics, Texas A&M University

FELLOWSHIPS

2020- Senior Fellow, Rimini Centre for Economic Analysis (RCEA)

2021-22 Faculty Fellow, Office of the Provost, MU

2021-22 Alumni Leaders Board Faculty Fellow, Economics, MU

2020-22 Research Fellow, Economic & Policy Analysis Research Center, MU

2020-21 Melissa and David Skeens Faculty Fellow, Economics, MU

2018-21 Faculty Fellow, Office of the Dean, College of Arts and Science, MU

2017-18 Ted and Margaret Murray Research Fellow, Economics, MU

2016-17 Walter Johnson Excellence in Teaching Fellow, Economics, MU

2015-16 Arts and Science Faculty Fellow, College of Arts and Science, MU

2000-01 Rimlinger Memorial Fellow, Rice University

RESEARCH IMPACT

[Scopus](#): 817 citations

[Google Scholar](#): 1,728 citations

[ResearchGate](#): 1,276 citations

PEER-REVIEWED PUBLICATIONS

- Clark, K.S. and **Miller, J.I.** Effects of Climate Change on House Prices in Outdoor Tourism Destinations: A Case Study of Southwestern Colorado. *Environmetrics* 36(3), 2025, e70007.
- Brock, W.A. and **Miller, J.I.** Polar Amplification in a Moist Energy Balance Model: A Structural Econometric Approach to Estimation and Testing. *Journal of Econometrics* 245(1-2), 2024, 105885.
- Miller, J.I.** and Brock, W.A. Beyond RCP8.5: Marginal Mitigation Using Quasi-Representative Concentration Pathways, *Journal of Econometrics* 239(1), 2024, 105152.
- Castle, J.L., Hendry, D.F., and **Miller, J.I.** Econometric Forecasting of Climate Change, in *Handbook of Research Methods and Applications in Macroeconomic Forecasting*, Clements, M.P. and Galvão, A.B. (eds.), pp. 361-395, Edward Elgar Publishing, 2024.
- Miller, J.I.** Local Climate Sensitivity: What Can Time Series of Distributions Reveal about Spatial Heterogeneity of Climate Change? in *Essays in Honor of Joon Y. Park: Econometric Methodology in Empirical Applications (Advances in Econometrics, Volume 45B)*, Chang, Y., Lee, S., and **Miller, J.I.** (eds.), 2023, 319-350.
- Miller, J.I.** and Nam, K. Peak Electricity Demand: A Semiparametric Approach Using Weather-Driven Cross-Temperature Response Functions, *Energy Economics* 114, 2022, 106291.
- Zhao, J., **Miller, J.I.**, Binfield, J., and Thompson, W. Modeling and Forecasting Agricultural Commodity Support in the Developing Countries, *International Agricultural Trade Research Consortium*, Commissioned Paper No. 29, 2022.
- Eroğlu, B.A., **Miller, J.I.**, and Yiğit, T. Time-Varying Cointegration and the Kalman Filter, *Econometric Reviews* 41(1), 2022, 1-21.
- Chang, Y., Choi, Y., Kim, C.S., **Miller, J.I.** and Park, J.Y. Forecasting Regional Long-Run Energy Demand: A Functional Coefficient Panel Approach, *Energy Economics* 96, 2021, 105117.
- Miller, J.I.** and K. Nam. Dating Hiatuses: A Statistical Model of the Recent Slowdown in Global Warming and the Next One, *Earth System Dynamics* 11(4), 2020, 1123-1132.
- Chang, Y., Kaufmann, R.K., Kim, C.S., **Miller, J.I.**, Park, J.Y., and Park, S. Evaluating Trends in Time Series of Distributions: A Spatial Fingerprint of Human Effects on Climate, *Journal of Econometrics* 214(1), 2020, 274-294.
- Miller, J.I.** Testing Cointegrating Relationships Using Irregular and Non-Contemporaneous Series with an Application to Paleoclimate Data, *Journal of Time Series Analysis* 40, 2019, 936-950.

- Zhao, J., **Miller, J.I.**, and Thompson, W. Modeling and Extrapolating Wheat Producer Support Using Income and Other Factors, *Journal of Agricultural Economics* 69, 2018, 338-350.
- Miller, J.I.** Simple Robust Tests for the Specification of High-Frequency Predictors of a Low-Frequency Series, *Econometrics and Statistics* 5, 2018, 45-66.
- Chang, Y., Choi, Y., Kim, C.S., **Miller, J.I.**, and Park, J.Y. Disentangling Temporal Patterns in Elasticities: A Functional Coefficient Panel Analysis of Electricity Demand, *Energy Economics* 60, 2016, 232-243.
- Chang, Y., Kim, C.S., **Miller, J.I.**, Park, J.Y., and Park, S. A New Approach to Modeling the Effects of Temperature Fluctuations on Monthly Electricity Demand, *Energy Economics* 60, 2016, 206-216.
- Miller, J.I.** and Wang, X. Implementing Residual-Based KPSS Tests for Cointegration with Data Subject to Temporal Aggregation and Mixed Sampling Frequencies, *Journal of Time Series Analysis* 37(6), 2016, 810-824.
- Miller, J.I.** Conditionally Efficient Estimation of Long-Run Relationships Using Mixed-Frequency Time Series, *Econometric Reviews* 35(6), 2016, 1142-1171.
- Ghysels, E. and **Miller, J.I.** Testing for Cointegration with Temporally Aggregated and Mixed-Frequency Time Series, *Journal of Time Series Analysis* 36(6), 2015, 797-816.
- Ghysels, E. and **Miller, J.I.** On the Size Distortion from Linearly Interpolating Low-Frequency Series for Cointegration Tests, in *Essays in Honor of Peter C.B. Phillips (Advances in Econometrics, Volume 33)*, Fomby, T.B., Park, J.Y., and Chang, Y. (eds.), 2014, 93-122.
- Chang, Y., Kim, C.S., **Miller, J.I.**, Park, J.Y., and Park, S. Time-Varying Long-Run Income and Output Elasticities of Electricity Demand with an Application to Korea, *Energy Economics* 46, 2014, 334-347.
- Miller, J.I.** Mixed-Frequency Cointegrating Regressions with Parsimonious Distributed Lag Structures, *Journal of Financial Econometrics* 12(3), 2014, 584-615.
- Luo, S. and **Miller, J.I.** On the Spatial Correlation of International Conflict Initiation and Other Binary and Dyadic Dependent Variables, *Regional Science and Urban Economics* 44(1), 2014, 107-118.
- Miller, J.I.** and Ni, S. Long-Term Oil Price Forecasts: A New Perspective on Oil and the Macroeconomy, *Macroeconomic Dynamics* 15(S3), 2011, 396-415.
- Miller, J.I.** Testing the Bounds: Empirical Behavior of Target Zone Fundamentals, *Economic Modelling* 28(4), 2011, 1782-1792.
- Miller, J.I.** Cointegrating Regressions with Messy Regressors and an Application to Mixed-Frequency Series, *Journal of Time Series Analysis* 31(4), 2010, 255-277.
- Miller, J.I.** and Park, J.Y. Nonlinearity, Nonstationarity, and Thick Tails: How They Interact to Generate Persistence in Memory, *Journal of Econometrics* 155(1), 2010, 83-89.

Miller, J.I. A Nonlinear IV Likelihood-Based Rank Test for Multivariate Time Series and Long Panels, *Journal of Time Series Econometrics* 2(1), 2010.

Miller, J.I. and Ratti, R.A. Crude Oil and Stock Markets: Stability, Instability, and Bubbles, *Energy Economics* 31(4), 2009, 559-568.

Chang, Y., **Miller, J.I.**, and Park, J.Y. Extracting a Common Stochastic Trend: Theory with Some Applications, *Journal of Econometrics* 150(2), 2009, 231-247.

OTHER PUBLICATIONS

Miller, J.I., and Pretis, F. Introduction to the Themed Issue on Climate Econometrics, *Journal of Econometrics* 239(1), 2024, 105644.

Chang, Y., Lee, S., and **Miller, J.I.** Introduction, in *Essays in Honor of Joon Y. Park: Econometric Theory (Advances in Econometrics, Volume 45A)*, Chang, Y., Lee, S., and **Miller, J.I.** (eds.), 2023, ix-xiii.

Chang, Y., Lee, S., and **Miller, J.I.** Introduction, in *Essays in Honor of Joon Y. Park: Econometric Methodology in Empirical Applications (Advances in Econometrics, Volume 45B)*, Chang, Y., Lee, S., and **Miller, J.I.** (eds.), 2023, ix-xiv.

Miller, J.I., Bjørnland, H.C., and Chang, Y. Introduction to “New Developments in Econometrics of Energy and Climate,” *Energy Economics* 100, 2021, 105323.

Miller, J.I. Econometric Analysis of the Daily Peak Demand of Electricity: A Semiparametric Approach Using Weather-Driven Cross Temperature Response Functions, Economic & Policy Analysis Research Center Report for the Korea Energy Economics Institute, 2020.

RECENT WORKING PAPERS

Chang, Y., Choi, Y., Kim, C.S., **Miller, J.I.**, and Park, J.Y. Common Trends and Country Specific Heterogeneities in Long-Run World Energy Consumption.

Chang, Y., **Miller, J.I.**, and J.Y. Park. Shocking Climate: Identifying Economic Damages from Anthropogenic and Natural Climate Change.

Jeon, Y., Thompson, W., Hoang, H.K., Abler, D., and **Miller J.I.** Revealing Fundamental Food Demand Parameters: A New Theoretically Consistent Meta-Regression Approach to US Food Demand Elasticities.

Miller, J.I. and Brock, W.A. Polar Amplification Helps Forecast Northern Temperature Anomalies.

Miller, J.I. and F. Zhong. Temperature Response Functions for Climate Impact Assessments: The Case of ENSO and Electricity Consumption.

CONFERENCE & WORKSHOP PRESENTATIONS (since 2018)

- 2025 “Climate Econometrics” Research Retreat, Gerzensee Study Center
Symposium of the Society for Nonlinear Dynamics and Econometrics,
University of Texas at San Antonio
- 2024 Center for Energy Innovation Symposium, University of Missouri
Conference on Econometric Models of Climate Change, University of Cambridge
Midwest Econometrics Group Meeting, University of Kentucky
North American Summer Meeting of the Econometric Society, Vanderbilt
University
Workshop on Energy Transition and Climate Change, UC Riverside
- 2023 Conference on Econometric Models of Climate Change, Vrije Universiteit
Amsterdam
Econometric Society, African Meeting, African Economic Research Consortium,
Nairobi (invited session)
Midwest Econometrics Group Meeting, Federal Reserve Bank of Cleveland
NBER-NSF Time Series Conference, Université du Québec à Montréal
(poster session)
- 2022 International Symposium on Econometric Theory and Applications,
Yonsei University
International Symposium on Forecasting, University of Oxford (invited session)
Midwest Econometrics Group Meeting, Michigan State University
NBER-NSF Time Series Conference, Boston University (poster session)
Workshop on Environmental Time Series Analysis, Maastricht University
West Indies Economic Conference, University of the West Indies at Mona,
Jamaica
- 2021 Conference on Econometric Models of Climate Change, University of
Victoria
Econometric Society, African Meeting, Ecole Nationale Supérieure de Statistique
et d'Economie Appliquée, Abidjan, Côte D'Ivoire
European Conference of the Econometrics Community (EC)², Aarhus University
Joint Statistical Meetings, Virtual Conference (invited session)
RCEA Time Series Workshop, University of Milan-Bicocca
- 2020 American Geophysical Union, Virtual Fall Meeting
Econometric Society, Virtual World Congress, Bocconi University
- 2019 Conference on Econometric Models of Climate Change, University of
Milan-Bicocca
Midwest Econometrics Group Meeting, Ohio State University
Symposium of the Society for Nonlinear Dynamics and Econometrics,
Federal Reserve Bank of Dallas
Workshop on Econometric Analysis of Energy Demand and Climate Change,
Sungkyunkwan University and Korea Power Exchange

- 2018 Agricultural & Applied Economics Association, Annual Meeting,
 Washington, DC (invited track session)
 Conference on Econometric Models of Climate Change, University of
 Rome Tor Vergata
 International Conference on the Economics of Oil, Fundação Getulio Vargas,
 Rio de Janeiro (invited session)
 International Symposium on Forecasting, University of Colorado Boulder
 (invited session)
 Midwest Econometrics Group Meeting, University of Wisconsin-Madison
 Southern Economic Association, Annual Meeting, Washington, DC
 (presidential session)

INVITED SEMINARS (Departments of Economics, unless otherwise indicated)

Cardiff University, Federal Reserve Bank of Kansas City, Georgia State University,
 Indiana University, Kansas State University, Korea Energy Economics Institute,
 Maastricht University (Quantitative Economics), Michigan State University, Michigan
 Technological University (Mathematical Sciences), Missouri University of Science &
 Technology, Northern Illinois University, Ohio State University, Pusan National
 University, Rice University, Rimini Center for Economic Analysis, Simon Fraser
 University, Sungkyunkwan University, Texas A&M University, University of British
 Columbia, University of Exeter, University of Florida, University of Guelph, University
 of Kansas, University of Leeds, University of Maryland, University of Missouri,
 University of North Carolina-Chapel Hill, University of Nottingham (Granger Centre for
 Time Series Econometrics), University of Oklahoma, University of Oxford (Climate
 Econometrics, Nuffield College), University of Pennsylvania (Business Economics and
 Public Policy, Wharton School), University of York, Vanderbilt University, Virginia
 Tech

GRANTS

Extramural

- 2018 \$25,000, Commissioned Paper (co-PI), International Agricultural Trade
 Research Consortium, University of Minnesota

Intramural

- 2022 Faculty International Travel Grant, College of Arts & Science, MU
 2017 Faculty International Travel Grant, MU
 2015 Faculty International Travel Grant, MU
 2013 Economic & Policy Analysis Research Center Grant, MU
 2012 Faculty International Travel Grant, MU
 2011 Economic & Policy Analysis Research Center Grant, MU
 2011 Assistant Professor Travel Grant, MU
 2010 Economic & Policy Analysis Research Center Grant, MU
 2009 Assistant Professor Travel Grant, MU
 2008 Assistant Professor Travel Grant, MU
 2006 Faculty International Travel Grant, MU

TEACHING

University of Missouri

Introductory Econometrics	(BA/BS core)
Introductory Time Series	(BA/BS elective, offered as independent study)
Energy Economics	(BA/BS elective, offered as independent study)
Statistics for Economists	(MA/PhD core)
Applied Econometrics	(MA core, PhD elective outside of Economics)
Econometric Theory I	(PhD core, 1 st semester econometrics)
Econometric Theory II	(PhD core, 2 nd semester econometrics)
Adv. Topics in Econometrics I	(PhD field, 1 st semester time series)
Adv. Topics in Econometrics III	(PhD field, 2 nd semester time series)

Texas A&M University

Introduction to Econometrics	(BA/BS core)
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Rice University

Principles of Economics II	(BA core, introductory macroeconomics)
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ADVISING

PhD Dissertations, Advisor (Placement)

2018	Kyungsik Nam	(Korean Energy Economics Institute)
2016	Xi Wang	(Bank of America)
2014	Tengda Cheng	(American Credit Acceptance)
2013	Junchuan (Jesse) Zeng	(JPMorgan Chase)
2012	Shali Luo	(University of Illinois at Chicago)

MA Theses, Advisor or Co-Advisor

2023	Foluso Adeniyi, Economics
2020	Zimin Miao, Economics and Mathematics
2017	Hope Moorhead, Economics and Statistics
2016	Seungyub (Eric) Lee, Economics
2015	Patrick McDermott, Economics and Statistics
	Xi Wang, Economics
2014	Tengda Cheng, Economics and Mathematics
2013	Keyang (Daniel) Yang, Economics and Mathematics
2012	Jewelwayne Cain, Economics
	Scott Glosemeyer, Economics
2011	Zhen Cai, Economics
	Liuyu (Lily) Qin, Economics and Mathematics
	Haibo Yu, Economics and Statistics
	Xingting Zhang, Economics

Undergraduate Honors Thesis or Research Mentorship, Advisor (Placement)

2022	Cassandra Marks	(Federal Reserve Bank of St. Louis)
2021	Kadie Clark	(Cambridge Associates LLC)
2017	Michelle Wickman	(Economics, University of Missouri)
2014	Logan Graham	(Applied Mathematics & Statistics, Stony Brook U.)
	Brett Nardoni	(Federal Reserve Bank of Kansas City)
2007	Aaron Jennings	(Law, University of Iowa)

Committee member for numerous MA and PhD students at MU in Economics, Agricultural & Applied Economics, Finance, Mathematics, and Statistics since 2005 and for two PhD students at universities outside the US since 2021

PROFESSIONAL SERVICE***Editorial Positions***

Studies in Nonlinear Dynamics & Econometrics (Associate Editor: 2023-)

Environmetrics (“Climate and Sustainable Energy Econometrics and Statistics,” special issue, in progress)

Journal of Econometrics (“Climate Econometrics,” themed issue: 2024)

Advances in Econometrics

(“Essays in Honor of Joon Y. Park: Econometric Theory” Volume 45A: 2023)

(“Essays in Honor of Joon Y. Park: Econometric Methodology in Empirical Applications” Volume 45B: 2023)

Econometrics (“Econometric Analysis of Climate Change,” topical collection: 2023)

Energy Economics (“New Developments in the Econometric Analysis of Energy and Climate,” special issue: 2021)

Conference Organizing Committees

Advances in Econometrics Conference in Honor of Joon Y. Park (2023)

Workshop on Energy Economics: Econometric Analysis of Energy Demand and Climate Change (2019)

Conference Scientific/Program Committees

International Association for Applied Econometrics, Annual Conference (2024, 2025)

RCEA International Conference in Economics, Econometrics and Finance (2024, 2025)

Italian Workshop of Econometrics and Empirical Economics (2024)

Advances in Econometrics Conference in Honor of Joon Y. Park (2023)

RCEA-Europe International Conference on Global Threats to the World Economy (2023)

European Conference of the Econometrics Community (2013, 2014, 2021)

Workshop on Econometric Analysis of Energy Demand and Climate Change (2019)

International Conference on Computational and Financial Econometrics (2016, 2017)

Conference Session Organizer

World Congress of the Econometric Society (2015, 2020)

International Conference on Computational and Financial Econometrics (2015, 2016)

Other Committees

Steering Committee, RCEA, Climate and Energy Econometrics Network (2022-)

REFeree SERVICE

Advances in Econometrics, Applied Economics, Applied Economics Letters, Cambridge University Press, Climate Dynamics, Climate of the Past, Communications in Statistics – Simulation and Computation, Data Science in Science, Econometric Reviews, Econometric Theory, Econometrics, Economic Modelling, Economics Bulletin, Economics Letters, Empirical Economics, Energies, Energy and Environment, Energy Economics, Energy Journal, European Economic Review, Geophysical Research Letters, HICSS-48, International Journal of Climatology, International Journal of Forecasting, Japan and the World Economy, Journal of Applied Econometrics, Journal of Business Cycle Research, Journal of Business & Economic Statistics, Journal of Climate, Journal of Commodity Markets, Journal of Econometrics, Journal of Economic Dynamics and Control, Journal of Empirical Finance, Journal of Forecasting, Journal of International Money and Finance, Journal of Labor Research, Journal of Machine Learning Research, Journal of Nonparametric Statistics, Journal of Productivity Analysis, Journal of Risk and Financial Management, Journal of Statistical Planning and Inference, Journal of Time Series Analysis, Journal of Time Series Econometrics, Leibniz Association, Mathematical Reviews, One Earth, Oxford University Press, Physica A: Statistical Mechanics and its Applications, Public Opinion Quarterly, Quaternary Science Reviews, Southern Economic Journal, Springer Nature, Statistics: A Journal of Theoretical and Applied Statistics, Studies in Nonlinear Dynamics and Econometrics, Sustainability, University of Missouri Research Board

UNIVERSITY SERVICE**Extramural**

Phi Beta Kappa National Honor Society, Alpha of Missouri Chapter

(President: 2017-18, 2020-21, Vice President: 2015-17, 2021-23,

Programming Chair: 2019-20, Treasurer: 2023-26)

Omicron Delta Epsilon Economics Honor Society, Beta of Missouri Chapter

(Faculty Advisor: 2013-18)

University of Missouri-Columbia (MU) or University of Missouri System (UM)

Campus Promotion and Tenure Advisory Committee (2022-25)

Office of the Provost (Faculty Fellow: 2021-22)

Provost's Colloquium: Student Success Research and Practice (Co-organizer: 2022)

Resource Allocation Model Student Services and Administrative Committee

(Co-chair: 2020-21, ad hoc)

Committee on Undergraduate Education (2013-16)

...various other university and university system service since 2018

MU College of Arts and Science

Office of the Dean (Faculty Fellow: 2018-21)
 Executive Committee (2015-18, Chair: 2017-18)
 Curriculum, Instruction, and Advising Committee (2012-14)
 ...various other college service since 2016

MU Department of Economics

Associate Department Chair (2019-25)
 Econometrics Field/Comprehensive/Qualifying Exam Committee
 (2005-2016, Chair: 2016-)
 Recruiting Committee (2005-06, 2012-13, Chair: 2020-21, 2023-24)
 Promotion Committee (Chair: 2022-25)
 Salary Advisory Committee (2012-14, 2020-21, Chair: 2021-22)
 Director of Undergraduate Studies (2012-14)
 Graduate Studies Committee (2005-07, 2009-12, 2017-19)
 ...various other department service since 2005

PRESS MENTIONS & PUBLICITY***Economic effects of climate change***

2025 [Columbia Missourian](#)
 2023 [MU College of Arts & Science News](#)
 2022 [phys.org](#) (and similar)

Energy prices and energy efficiency

2025 [ABC 17 \(Columbia\)](#)
 2024 [Show Me Mizzou](#)
 2023 September: [KOMU 8 \(Columbia\)](#), [The Missourian \(Columbia\)](#),
[Missouri Business Alert](#), [News-Press NOW \(St. Joseph\)](#) (and similar)
 July: [Missouri Business Alert](#), [WalletHub](#)
 May: [ABC 17 \(Columbia\)](#), [Show Me Mizzou](#),
 2022 [The Wall Street Journal](#), [Columbia Missourian](#),
[ABC 17 \(Columbia\)](#), [ABC 17 \(Columbia\)](#)
 2018 [KOMU 8 \(Columbia\)](#), [KOMU 8 \(Columbia\)](#)
 2016 Missouri Business Alert
 2015 [WalletHub](#), KOMU 8 (Columbia)
 2014 KOMU 8 (Columbia)
 2013 [KBIA, Mid-Missouri Public Radio](#)
 2011 ABC 17 (Columbia), KOMU 8 (Columbia)
 2010 KOMU 8 (Columbia)

Universal Rating System for chess

2017 [Wikipedia](#) (and similar), [St. Louis Public Radio](#), [Chess.com](#) (and similar)

HONORS & AWARDS

2023 Tom and Vivian Hall Faculty Excellence Award, Department of Economics, MU
2020 MU Connect Champions Award, MU
2019 Winemiller Excellence Fund Data Analytics Award, MU
2001 Gulf Coast Mensa Scholarship Award
1999 Phi Beta Kappa National Honor Society, University of Pennsylvania

PROFESSIONAL MEMBERSHIPS

American Economic Association
Climate and Energy Econometrics Research Network, RCEA
Computational and Financial Econometrics Network
Econometric Society
International Association of Applied Econometrics
Society for Nonlinear Dynamics and Econometrics

CONSULTING & NON-ACADEMIC PROFESSIONAL EXPERIENCE

2020 Korea Energy Economics Institute
2015-17 Grand Chess Tour; Chess Club and Scholastic Center of St. Louis
2002 Fundamentals Group, El Paso Merchant Energy, Houston, Texas
1998-00 International Trade Practice, Dewey Ballantine LLP, Washington, DC