

Jonathan B. Hill

Assistant Professor of Economics
Department of Economics
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RESEARCH FIELDS

Econometric Theory, Mathematical Statistics, Time Series Econometrics, Financial Econometrics

RESEARCH INTERESTS

- *Robust estimation and inference* (tail-trimmed GMM, QML, GEL; moment condition tests)
- *Extreme value theory* (tail shape, tail fractile, tail dependence, extremal causality, limit theory).
- *Non-parametric statistics* (tests of functional form, tail dependence and tail-trimming).
- *Asymptotic theory* (weak limit theory for tail and non-tail arrays)
- *Regression model specification* (power-one tests, robust tests)

EDUCATION

Ph.D.: Economics, 2001, University of Colorado-Boulder

B.A.'s: Economics, Sociology and Anthropology, 1990, University of Colorado-Boulder

CURRENT ACADEMIC APPOINTMENTS

Assistant Professor of Economics, University of North Carolina-Chapel Hill, 2008-

RESEARCH VISITS

Visiting Fellow, CIREQ (University of Montreal and Concordia University) (Oct 1-7, 2010)

Visiting Fellow, CIREQ (University of Montreal and Concordia University) (March 1-7, 2010)

Visiting Research Fellow, CentER, University of Tilburg (Fall 2009)

PREVIOUS ACADEMIC APPOINTMENTS

Visiting Assistant Professor of Economics, University of North Carolina-Chapel Hill (2007-08)

Assistant Professor of Economics, Florida International University (2004-2007)

Visiting Professor of Statistics, China Agricultural University, Beijing (Summers 2001 and 2002)

Visiting Lecturer of Econometrics, University of California-San Diego (2001-2003)

PROFESSIONAL AWARDS AND HONORS

- 2012 - Invited Speaker, Statistics of Lévy Driven Models (workshop) - Ulm, Germany
- 2011 - Invited Speaker, Workshop on New Developments in Econometrics - Brussels, Belgium
- 2010 - Chair, Joint Statistical Meeting - Vancouver, Canada
- 2008 - Invited Speaker, Computational and Financial Econometrics – Neuchâtel, Switzerland
- 2007 - Invited Speaker (Young Researcher), SAMSI Workshop on Extreme Events - Raleigh, NC
- 2004 - Chair, Econometric Society North American Winter Meeting - Providence, RI

PUBLISHED AND FORTHCOMING PAPERS

1. Hill, J.B. (2012). Stochastically Weighted Average Conditional Moment Tests of Functional Form. *Studies in Nonlinear Dynamics and Econometrics* 16: forthcoming
2. Hill, J.B. and M. Aguilar (2011). Moment Condition Tests for Heavy Tailed Time Series. *Journal of Econometrics : Annals Issue on Extreme Value theory* : forthcoming
3. Hill, J.B. (2011). Consistent GMM Residuals-Based Tests of Functional Form. *Econometric Reviews*: forthcoming.
4. Hill, J.B. (2011). Extremal Memory of Stochastic Volatility with an Application to Tail Shape Inference. *Journal of Statistical Planning and Inference* 141, 663-676.
5. Hill, J.B. (2011). Tail and Non-Tail Memory with Applications to Extreme Value and Robust Statistics. *Econometric Theory* 27, 844-884.
6. Anbarci, N., J.B. Hill, and H. Kirmanoglu (2011). Institutions and Growth Volatility. *Economic Papers* 30, 233–252.
7. Hill, J.B. (2010). On Tail Index Estimation for Dependent, Heterogeneous Data. *Econometric Theory* 26, 1398-1436.
8. Hill, J.B. (2010). Heavy Tails and Mixed Distribution Hypothesis. *Encyclopedia of Quantitative Finance*, Wiley.
9. Hill, J.B. (2009). On Functional Central Limit Theorems for Dependent, Heterogeneous Arrays with Applications to Tail Index and Tail Dependence Estimation. *Journal of Statistical Planning and Inference* 139, 2091-2110.
10. Hill, J.B. (2008). Consistent and Non-Degenerate Model Specification Tests Against Smooth Transition and Neural Network Alternatives. *Annales D'Economie et de Statistique* 90, 145-179.
11. Hill, J.B. (2007). Efficient Tests of Long-Run Causation in Trivariate VAR Processes with a Rolling Window Study of the Money-Income Relationship. *Journal of Applied Econometrics* 22, 747-765.
12. Hill, J.B. (2006). Strong Orthogonal Decompositions and Nonlinear Impulse Response Functions for Infinite Variance Processes, *Canadian Journal of Statistics* 34, 453-473.
13. Carlos, A., J.B. Hill and N. Moyen (2002). Royal African Company Share Prices during the South Sea Bubble. *Explorations in Economic History* 39.

PAPERS UNDER REVIEW OR REVISION FOR PUBLICATION

14. Hill, J.B. and A. Shneyerov (2010). Are There Common Values in First-Price Auctions? A Tail-Index Nonparametric Test. Revised and resubmitted to *Journal of Econometrics* (third round)
15. Hill, J.B. (2010). Central Limit Theory for Tail-Trimmed Sums of Heavy-Tailed Dependent, Heterogeneous Data: under revision for *Stochastic Processes and their Applications*.
16. Hill, J.B. (2011). Heavy-Tail and Plug-In Robust Consistent Conditional Moment Tests of Functional Form: revised for *Springer collected works in honor of Hal White*
17. Hill, J.B. (2012). Robust Estimation and Inference for Heavy Tailed Nonlinear GARCH (working paper version "*Robust M-Estimation for Heavy Tailed Nonlinear AR-GARCH*"), submitted to *Annals of Statistics*
18. Aguilar, M. and J.B. Hill (2011). Robust Score and Portmanteau Tests of Volatility Spillover, *submitted*
19. Hill, J.B. and A. Prokhorov (2011). GEL Estimation for Semi-Strong Nonlinear GARCH with Robust Empirical Likelihood Inference, *under revision*.

PAPERS AND PROJECTS IN PROGRESS

20. Hill, J.B. (2012). The Tail-Trimmed Correlogram - Robust Tests of Serial Dependence in Heavy Tailed Time Series
21. Hill, J.B. (2012). Robust Expected Shortfall Estimation and Inference for Infinite Variance Time Series
22. Hill, J.B. and E. Renault (2012). Variance Targeting for Heavy Tailed Time Series
23. Hill, J.B. and E. Renault (2012). Generalized Method of Moments with Tail Trimming
24. Hill, J.B. (2012). Heavy Tail Robust QML and LAD Estimation of GARCH Models with Indirect Inference
25. Hill, J.B. (2012). Tail Index Estimation for a Filtered Dependent Time Series

OLD WORKING PAPERS

26. Hill, J.B. (2011). Robust M-Estimation for Heavy Tailed Nonlinear AR-GARCH
27. Hill, J.B. (2009). Robust Estimation and Inference for Extremal Dependence in Time Series.
28. Hill, J.B. (2008). Gaussian Tests of 'Extremal White Noise' for Dependent, Heterogeneous, Heavy Tailed Time Series with an Application.

CONFERENCE AND WORKSHOP PRESENTATIONS (since 2006)

- NBER-NSF Time Series Conference - MSU, East Lansing, Oct. 2011 (co-author presents)
 Workshop on New Developments in Econometrics and Time Series - Brussels, Sept. 2011 (*invited speaker*)
 Joint Statistical Meeting - Miami, Aug. 2011
 Econometric Society Summer Meeting - St. Louis, June 2011

Conference in Honor of Hal White - UCSD, May 2011
 Econometric Society Winter Meeting - Denver, Jan. 2011
 Triangle Econometrics Conference - Durham, Dec. 2010
 NBER-NSF Time Series Conference - Duke University, Durham, , Oct. 2010
 Joint Statistical Meeting - Vancouver, Aug. 2010 (*chair*)
 UNC-NCSU Econometrics Workshop, Oct. 2008
 Royal Statistical Society – Nottingham, Sept. 2008
 Joint Statistical Meetings – Denver, Aug. 2008
 Econometric Society North American Summer Meeting - Pittsburgh, June 2008
 Computational and Financial Econometrics – Neuchâtel, June 2008 (*invited speaker, chair*)
 Triangle Econometrics Conference - Durham, Dec. 2007
 SAMSI Workshop on Extreme Events - Raleigh, Sept. 2007 (*invited speaker: Young Researcher*)
 European Meeting of Statisticians - Turon, July 2006
 Vilnius Conference on Mathematical Statistics - Vilnius, June 2006

SEMINARS, COLLOQUIA, AND INVITED TALKS (non-job market since 2006)

2010-2012 Statistics of Lévy Driven Models (workshop) - Ulm, Germany
 ECARES - University Brussels, Dept. of Statistics
 Georgia Institute of Technology - Dept. of Economics
 Ohio State University, Dept. of Economics
 CIREQ and University of Concordia, Dept. of Economics (spring)

2008-2009 CIREQ and University of Concordia, Dept. of Economics (fall)
 CentER Econometrics Seminar at University of Tilburg
 University of California – Davis, Dept. of Statistics
 University of Toronto, Dept. of Statistics
 University of North Carolina – Chapel Hill, Dept. of Economics
 Georgia Institute of Technology - Dept. of Mathematics

2006-2007 Oxford University, Dept. of Economics
 London School of Economics, Dept. of Economics
 Duke University, Dept. of Economics
 University of Toronto, Dept. of Economics
 University of North Carolina-Chapel Hill, Dept. of Statistics and O.R.
 Maastricht University, Dept. of Quantitative Economics
 Lancaster University, Dept. of Mathematics and Statistics
 University of Mannheim, Dept. of Statistics
 Vrije Universiteit Amsterdam, Dept. of Econometrics
 University of Amsterdam, Dept. of Econometrics

PROFESSIONAL ACTIVITIES**JOURNAL, ACADEMIC PRESS and GRANT PROPOSAL REFEREE**

Econometrics: *Econometrica*, *Journal of Econometrics*, *Econometric Theory*, *Journal of Business and Economic Statistics*, *Oxford Bulletin of Economics and Statistics*, *Journal of Applied Econometrics*, *Journal of Financial Econometrics*, *Econometric Reviews*, *Econometrics Journal*, *Studies in Nonlinear Dynamics and Econometrics*

Statistics, Mathematics and Physics: *Journal of the American Statistical Association*, *Annals of Statistical Mathematics*, *Journal of Nonparametric Statistics*, *Journal of Multivariate Analysis*, *Bernoulli*, *Stochastic Processes and their Applications*, *Statistics and Probability Letters*, *Journal of Time Series Analysis*, *Statistical Methods and Applications*, *IMA Journal of Management Mathematics*, *Journal of the Korean Statistical Society*, *Computational Statistics and Data Analysis*, *Physic A: Statistical Mechanics*, *Physica D: Nonlinear Phenomena*

Economics and Finance: *International Economics and Finance Journal*, *Economic Modeling*, *Energy Economics*

Other: *National Science Foundation - Statistics*, *Yale University Press - History and Economics*

AFFILIATIONS

Institute of Mathematical Statistics, Econometric Society, American Economic Association

TEACHING

UNDERGRADUATE: *Econometrics*, *Time Series Forecasting*, *Public Finance*, *Mathematical Economics*, *Microeconomics: principles, intermediate*, *Macroeconomics: principles, intermediate*

GRADUATE: *Econometric Theory*, *Nonlinear Time Series*, *Time Series*, *Mathematical Statistics and Probability Theory*, *Microeconometrics*, *Applied Time Series Forecasting*, *Public Finance*

DISSERTATION/THESIS COMMITTEES

Adviser	- Evgeniya Bakunova (2009: Honors, UNC-CH, <i>Intertemporal Decision Making in Economic Agents</i>)	
Reader	- Ozge Savascin	(Expected 2012: Ph.D., UNC-CH - <i>Macroeconomics</i>)
	- Mustafa Haluk Guler	(Expected 2012: Ph.D., UNC-CH - <i>Macroeconomics</i>)
	- Fernando Chaque	(Expected 2012: Ph.D., UNC-CH - <i>Financial Econometrics</i>)
	- Teerawut Sripinit	(2012: Ph.D., UNC-CH - <i>Macroeconomics</i>)
	- Stanis Krapov	(2011: Ph.D., UNC-CH - <i>Financial Econometrics</i>)
	- Michael Aguilar	(2008: Ph.D., UNC-CH, <i>Financial Econometrics</i>)
	- Jeffrey Czaikowski	(2007: Ph.D., FIU, <i>Environmental Economics</i>)

SERVICE (UNC-CH)

Junior Hiring Committee: 2011-2012

Advisory Committee: 2008-2009

External Review Response Committee: 2008-2009.