

**BRUCE E. HANSEN**  
**Trygve Haavelmo Professor of Economics**  
**Phipps Distinguished Chair in Economics**

July 2017

Address: Department of Economics  
Social Science Building, 1180 Observatory Drive  
University of Wisconsin  
Madison, WI 53706-1393

Telephone: (608) 263-3880  
Email: bruce.hansen@wisc.edu  
url: [www.ssc.wisc.edu/~bhansen](http://www.ssc.wisc.edu/~bhansen)  
Born: April 18, 1962  
Personal: U.S. citizen, married, two children

**Education**

1984 A.B. (Economics/Philosophy) Occidental College, Summa cum Laude  
1986 M.A. (Economics) Yale University  
1989 Ph.D. (Economics) Yale University

**Academic Positions**

1989-1992 Assistant Professor, Department of Economics, University of Rochester  
1992-1994 Associate Professor, Department of Economics, University of Rochester  
1994-1995 Associate Professor, Department of Economics, Boston College  
1995-1998 Professor, Department of Economics, Boston College  
1998-2008 Professor, Department of Economics, University of Wisconsin  
2008- Trygve Haavelmo Professor of Economics, University of Wisconsin  
2015- Mary Claire Aschenbrenner Phipps Distinguished Chair in Economics,  
University of Wisconsin

**Grants**

1991-1992 National Science Foundation Grant SES-9022176  
1992-1993 National Science Foundation Grant SES-9120576  
1994-1996 Alfred P. Sloan Foundation Research Fellowship  
1994-1997 National Science Foundation Grant SBR-9412339  
1998-2001 National Science Foundation Grant SBR-9807111  
2003-2006 National Science Foundation Grant SBR-0241152  
2006-2009 National Science Foundation Grant SES-0550908  
2010-2013 National Science Foundation Grant SES-0961258  
2013-2016 National Science Foundation Grant SES-1258858  
2017-2020 National Science Foundation Grant SES-1656123

**Honors and Awards**

Fellow, Econometric Society, 2000  
Fellow, Journal of Econometrics, 2000  
Kellett Mid-Career Award, University of Wisconsin, 2005  
WARF Professorship, University of Wisconsin, 2008  
Leon Epstein Faculty Fellow Award, University of Wisconsin, 2010-2011

### Editorial & Professional Positions

1995-2008	Co-Editor	<i>Econometric Theory</i>
1996-2008	Associate Editor	<i>Econometrica</i>
1992-1995	Associate Editor	<i>Econometric Theory</i>
2011-	Board of Directors	National Bureau of Economic Research

### Refereed Publications

- [1] "Estimation and inference in models of cointegration: A simulation study," with P.C.B. Phillips, *Advances in Econometrics* (1990), 8, 225-248.
- [2] "Statistical inference in instrumental variables regression with I(1) processes," with P.C.B. Phillips, *Review of Economic Studies* (1990), 57, 99-125.
- [3] "Strong laws for dependent heterogeneous processes," *Econometric Theory* (1991), 7, 213-221, and "Erratum" (1992), 8, 421-422.
- [4] "GARCH(1,1) processes are near-epoch dependent," *Economic Letters* (1991), 36, 181-186.
- [5] "Efficient estimation and testing of cointegrating vectors in the presence of deterministic trends," *Journal of Econometrics* (1992), 53, 87-121.
- [6] "Testing for parameter instability in linear models," *Journal of Policy Modeling* (1992), 14, 517-533.
- [7] "Heteroskedastic cointegration," *Journal of Econometrics* (1992), 54, 139-158.
- [8] "Tests for parameter instability in regressions with I(1) processes," *Journal of Business and Economic Statistics* (1992), 10, 321-335. Reprinted in Twentieth Anniversary Commemorative Issue of *Journal of Business and Economic Statistics* (2002), 20, 45-59.
- [9] "Convergence to stochastic integrals for dependent heterogeneous processes," *Econometric Theory* (1992), 8, 489-500.
- [10] "The likelihood ratio test under non-standard conditions: Testing the Markov switching model of GNP," *Journal of Applied Econometrics* (1992), 7, S61-S82. Also in *Nonlinear Dynamics, Chaos and Econometrics*, ed. M.H. Pesaran and S.M. Potter (1993), John Wiley & Sons. Also "Erratum", *Journal of Applied Econometrics*, (1996), 11, 195-198.
- [11] "Consistent covariance matrix estimation for dependent heterogeneous processes," *Econometrica* (1992), 60, 967-972.
- [12] "Asymptotic theory for the GARCH(1,1) quasi-maximum likelihood estimator," with Sang-Won Lee, *Econometric Theory* (1994), 10, 29-52.

- [13] "Autoregressive conditional density estimation," *International Economic Review* (1994), 35, 705-730.
- [14] "Are seasonal patterns constant over time? A test for seasonal stability," with Fabio Canova, *Journal of Business and Economic Statistics* (1995), 13, 237-252.
- [15] "Rethinking the univariate approach to unit root tests: How to use covariates to increase power," *Econometric Theory* (1995), 11, 1148-1171.
- [16] "Regression with non-stationary volatility," *Econometrica* (1995), 63, 1113-1132.
- [17] "Residual-based tests for cointegration in models with regime shifts," with Allan Gregory, *Journal of Econometrics* (1996), 70, 99-126.
- [18] "Stochastic equicontinuity for unbounded dependent heterogeneous arrays," *Econometric Theory* (1996), 12, 347-359.
- [19] "Tests for cointegration in models with regime and trend shifts," with Allan Gregory, *Oxford Bulletin of Economics and Statistics*, (1996), 58, 555-560.
- [20] "Inference when a nuisance parameter is not identified under the null hypothesis," *Econometrica* (1996), 64, 413-430.
- [21] "Review article. Methodology: Alchemy or Science?" *The Economic Journal*, (1996), 106, 1398-1413.
- [22] "Approximate asymptotic p-values for structural change tests," *Journal of Business and Economic Statistics* (1997), 15, 60-67.
- [23] "On the issue of functional form choice in hedonic price functions: Further evidence," with John Halstead and Rachel Bouvier, *Environmental Management* (1997), 21, 759-765.
- [24] "Inference in TAR models," *Studies in Nonlinear Dynamics and Econometrics*, (1997), 2.
- [25] "Testing for linearity," *Journal of Economic Surveys* (1999), 13, 551-576.
- [26] "Threshold effects in non-dynamic panels: Estimation, testing, and inference," *Journal of Econometrics* (1999), 93, 345-368.
- [27] "The grid bootstrap and the autoregressive model," *Review of Economics and Statistics* (1999), 81, 594-607.
- [28] "Sample splitting and threshold estimation" *Econometrica* (2000), 68, 575-603.
- [29] "Testing for structural change in conditional models," *Journal of Econometrics* (2000), 97, 93-115.
- [30] "Threshold autoregression with a unit root," with Mehmet Caner, *Econometrica* (2001), 69, 1555-1596.

- [31] "The new econometrics of structural change: dating changes in U.S. Labor Productivity, *Journal of Economic Perspectives*, (2001), 15, 117-128.
- [32] "Testing for two-regime threshold cointegration in vector error-correction models," with Byeongseon Seo, *Journal of Econometrics* (2002), 110, 294-318.
- [33] "Generalized Method of Moments and Macroeconomics," with Kenneth West, *Journal of Business and Economic Statistics* (2002), 20, 460-469.
- [34] "On the Reliability of Recounts from Undervotes: Evidence from the 2000 Presidential Election," *Journal of the American Statistical Association* (2003), 98, 292-298.
- [35] "How responsive are private transfers to income? Evidence from a laissez-faire economy," with Donald Cox and Emmanuel Jimenez, *Journal of Public Economics* (2004), 88, 2193-2219.
- [36] "Instrumental variable estimation of a threshold model," with Mehmet Caner. *Econometric Theory*, (2004), 20, 813-843.
- [37] "Challenges for Econometric Model Selection," *Econometric Theory*, (2005), 21, 60-68.
- [38] "Exact Mean Integrated Squared Error of Higher-Order Kernel Estimators," *Econometric Theory*, (2005), 21, 1031-1057.
- [39] "Interval Forecasts and Parameter Uncertainty," *Journal of Econometrics* (2006), 135, 377-398.
- [40] "Edgeworth expansions for the Wald and GMM statistics for nonlinear restrictions," *Econometric Theory and Practice: Frontiers of Analysis and Applied Research* (2006), edited by Dean Corbae, Steven N. Durlauf and Bruce E. Hansen. Cambridge University Press.
- [41] "Least Squares Model Averaging," *Econometrica*, (2007), 75, 1175-1189.
- [42] "Uniform Convergence Rates for Kernel Estimation with Dependent Data," *Econometric Theory*, (2008), 24, 726-748.
- [43] "Least Squares Forecast Averaging," *Journal of Econometrics*, (2008), 146, 342-350.
- [44] "Averaging Estimators for Regressions with a Possible Structural Break," *Econometric Theory*, (2009), 35, 1498-1514.
- [45] "Averaging Estimators for Autoregressions with a Near Unit Root," *Journal of Econometrics*, (2010), 158, 152-155.
- [46] "Threshold autoregression in economics," *Statistics and Its Interface*, (2011), 4, 123-127.
- [47] "Jackknife model averaging," with Jeffrey Racine, *Journal of Econometrics*, (2012), 167, 38-46.
- [48] "Nonparametric Sieve Regression: Least Squares, Averaging Least Squares, and Cross-Validation," *The Oxford Handbook of Applied Nonparametric and Semiparametric Econometrics and Statistics*, (2014), edited by Jeffrey S. Racine, Liangjun Su, and Aman Ullah, Oxford University Press.

- [49] "Model averaging, asymptotic risk, and regressor groups," *Quantitative Economics*, (2014), 5, 495-530.
- [50] "Asymptotic Moments of Autoregressive Estimates with a Near Unit Root and Minimax Risk," in Yoosoon Chang, Thomas B. Fomby, Joon Y. Park (ed.) *Advances in Econometrics*, (2014), 33, 3-21.
- [51] "Purchasing Power Parity and the Taylor Rule," with Hyeongwoo Kim, Ippei Fujiwara, and Masao Ogaki, *Journal of Applied Econometrics*, (2015), 30, 874-903
- [52] "The Integrated Mean Squared Error of Series Regression and a Rosenthal Hilbert-Space Inequality," *Econometric Theory*, (2015), 31, 337-361.
- [53] "Forecasting with Factor-Augmented Regression: A Frequentist Model Averaging Approach," with Xu Cheng, *Journal of Econometrics*, (2015), 186, 280-293.
- [54] "Shrinkage Efficiency Bounds," *Econometric Theory*, (2015), 31, 860-879.
- [55] "Efficient Shrinkage in Parametric Models," *Journal of Econometrics*, (2016) 190, 115-132.
- [56] "Minimum Mean Squared Error Model Averaging in Likelihood models," with Gerda Claeskens and Ali Charkhi, *Statistica Sinica*, (2016), 26, 809-840.
- [57] "The Risk of James-Stein and Lasso Shrinkage," *Econometric Reviews*, (2016), 35, 1456-1470.
- [58] "Regression Kink with an Unknown Threshold," *Journal of Business and Economic Statistics*, (2017), 35, 228-240.
- [59] "A Stein-Like 2SLS Estimator," *Econometric Reviews*, (2017).
- [60] "Time series econometrics for the 21<sup>st</sup> century," *The Journal of Economic Education*, (2017) 4,48, 137-145.

### Textbook

#### *Econometrics*

Graduate Textbook (draft)

<http://www.ssc.wisc.edu/~bhansen/econometrics/>

### Edited Volume

*Econometric Theory and Practice: Frontiers of Analysis and Applied Research*, edited by Dean Corbae, Steven N. Durlauf and Bruce E. Hansen. (2006) Cambridge University Press.

## Reviews and Comments

- [1] "Discussion of 'Data Mining Reconsidered' by Kevin Hoover and Stephen Perez," *Econometrics Journal* (1999), 2, 192-201.
- [2] "Book Review: *Handbook of Econometrics*, Volume 4," with Joel Horowitz, *Econometric Theory* (1997), 13, 119-132.
- [3] "Book Review: *Time Series Analysis* by James D. Hamilton," *Econometric Theory* (1995), 11, 625-631.
- [4] Comment on "Testing for common features" by R. Engle and S. Kozicki, *Journal of Business and Economic Statistics* (1993), p. 385-386.
- [5] Comment on "Further evidence on business cycle duration dependence" by F.X. Diebold, G.D. Rudebusch and D.E. Sichel, *Business Cycles, Indicators, and Forecasting*, ed. J.H. Stock and M.W. Watson (1993), p. 280-284.
- [6] Comment on "Feature Matching in Time Series Modeling" by Yingcun Xia and Howell Tong, *Statistical Science*, (2011), 26, 47-48.
- [7] "Guest Editors Introduction: The Special 18<sup>th</sup> Meeting of the New Zealand Econometric Study Group in Honor of Peter C. B. Phillips," with Joon Park, *Econometric Theory* (2014), 30, 715-718.
- [8] Comment on "In-sample inference and forecasting in misspecified factor models" by M. Carrasco and B. Rossi, with Xu Cheng, *Journal of Business and Economic Statistics* (2016), 34, p. 345-347.

## Special Courses

December 1996

Workshop of the Netherlands Network of Economics, Maastricht, Netherlands  
"The Econometrics of Structural Change"  
5-day course for graduate students

June 2004

Centro Interuniversitario di Econometria (CIDE) Summer School, Bertinoro, Italy  
"Structural Change and Threshold Models"  
5-day course for graduate students

August 2010

International Monetary Fund

“Forecast Combination”  
1-day course for IMF Staff

November 2010  
UC Riverside  
Distinguished visitor

September 2011  
Boston University  
Distinguished visitor  
5-day course for graduate students

October 2011  
International Monetary Fund  
“Forecasting”  
3-day course for IMF Staff

July 2012  
Advanced Summer School in Economics and Econometrics, University of Crete  
“Time Series and Forecasting”  
5-day course for graduate students

October 2013  
Central Bank of Chile  
“Forecasting”  
3-day course for CBC staff

October 2014  
Statistics Norway  
“Forecasting Combination, Threshold, & Nonlinear Autoregression”  
2-day course for staff

June 2017  
University of Aarhus  
“Selection and Shrinkage in Nonparametric Regression”  
2-day, 4-lecture short course

### **Conference Presentations**

- 1987 Econometric Society Summer Meetings
- 1990 ENSAE Conference on ARCH Models (Paris)  
World Congress of the Econometric society, Barcelona  
Canadian Econometric Study Group  
Econometric Society Winter Meetings
- 1991 Conference on Nonlinear Dynamics and Econometrics, UCLA  
NBER conference on “Business cycles, leading indicators and forecasting”  
Econometric Society Summer Meetings
- 1992 Econometric Society Winter Meetings

Yale Conference on Bayes Methods and Unit Roots  
 Yale Conference on Empirical processes and dependent random variables  
 Recent Developments in the Econometrics of Structural Change (University of Montreal)

1993 Econometric Society Winter Meetings  
 Yale/NSF Conference on Multiple Trending Time Series  
 EC<sup>2</sup> Conference (Oxford University)

1994 Econometric Society Winter Meetings

1996 Econometric Society Winter Meetings  
 Society for Nonlinear Dynamics and Econometrics  
 NBER Summer Institute – Forecasting Workshop  
 Canadian Econometric Study Group  
 Bergamo Conference on Applied Economics  
 NBER/NSF Time Series Conference (Rotterdam)

1997 Econometric Society Winter Meetings

1998 Econometric Society Winter Meeting  
 NBER Summer Institute – Forecasting Workshop  
 Mid-West Econometrics Group

1999 Econometric Society Winter Meeting  
 Econometric Society Summer Meeting  
 Econometric Society Latin American Meeting  
 Cowles Econometrics Conference

2000 Econometric Society Winter Meeting  
 Cardiff conference on long memory and nonlinear time series  
 ESRC Econometric Study Group Conference, Bristol  
 World Congress of the Econometric society, Seattle

2001 Joint Statistical Meetings  
 Econometric Society European Meeting  
 Exchange Rate conference (UW Madison)

2003 Econometric Society Winter Meeting  
 North Triangle Econometrics Conference (keynote speaker)

2004 Econometric Society Winter Meeting  
 Retirement Conference for Clive Granger (UCSD)  
 Texas Camp Econometrics (keynote speaker)  
 Joint Statistical Meetings

2005 Canadian Econometrics Study Group (keynote speaker)

2006 Econometrics in Rio (keynote speaker)  
 Midwest Econometrics Group (keynote speaker)  
 New York Area Econometrics conference

2007 20 Years of Cointegration, Tinbergen Institute (keynote speaker)  
 NBER-NSF Time Series Conference  
 Conference in Honor of Paul Newbold, University of Nottingham (keynote speaker)  
 EC<sup>2</sup>: Recent Advances in Econometric Time Series (Faro, Portugal) (keynote speaker)

2008 London Time Series Workshop (keynote speaker)  
 Dutch Econometrics Study Group (keynote speaker)  
 UK Econometrics Study Group (keynote speaker)

2009 CIREQ Time Series Conference (Montreal)

2010 World Congress of the Econometric society, Shanghai  
 Midwest Econometrics Group  
 CIREQ Time Series Conference (Montreal)



- 2011 Yale Economics Alumni Conference  
 Econometric Society Summer Meeting  
 Econometric Society Australasian Meeting (keynote speaker)  
 Joint Statistical Meetings  
 Info Metrics Workshop on Shrinkage at American University
- 2012 CIREQ conference on High Dimensional Problems in Econometrics  
 Vienna conference on statistical inference in complex/high-dimensional problems
- 2013 CIREQ conference on Time Series and Financial Econometrics (Montreal)  
 International Conference on Econometrics, Operations Research, and Statistics (Sarajevo) (keynote speaker)  
 Workshop on “Model Selection, Nonparametrics, and Dependence” (Rennes, France)  
 Advances in Econometrics Conference in Honor of Peter C. B. Phillips (SMU)  
 High-Dimensional Econometric Models (CEMMAP, London)  
 5<sup>th</sup> French Econometrics Conference (Toulouse) (keynote speaker)
- 2014 Texas Econometrics Camp (keynote speaker)  
 Tsinghua Conference in Econometrics (Beijing, China) (keynote speaker)  
 SETA 2014 (Academia Sinica, Taipei) (keynote speaker)  
 Interactions (University of Chicago)  
 Econometrics Conference in Honor of Essie Maasoumi
- 2015 Econometric Society Winter Meetings  
 International Association of Applied Econometrics, Thessaloniki, Greece  
 Crete 2015 (Conference on Research in Economics and Econometrics), Chania, Greece (keynote)  
 Frontiers of Theoretical Econometrics, University of Konstanz, Germany  
 World Congress of the Econometric Society, Montreal
- 2016 Royal Economic Society Annual Conference, Brighton, UK  
 International Symposium in Computational Economics and Finance, Paris, France (keynote)  
 Barcelona GSE Summer Forum, Barcelona, Spain  
 International Association of Applied Econometrics, Milan, Italy  
 International Ioannina Meeting on Applied Economics and Finance, Corfu, Greece (keynote)  
 Midwest Econometrics Group, University of Illinois
- 2017 ASSA “Updating the Undergraduate Econometrics Curriculum” (Chicago)  
 CIREQ conference on Inference in Large Econometric Models (Montreal)  
 New York Camp Econometrics (Lake Placid) (keynote speaker)  
 International Association of Applied Econometrics, Sapporo, Japan (keynote speaker)

## Seminar Presentations

- 1989 Queen's University  
University of Rochester
- 1990 Indiana University  
UCLA  
Yale University
- 1991 University of Pennsylvania  
Northwestern University  
Oxford University  
University of Alberta  
University of Saskatchewan  
University of Wisconsin – Madison  
University of Iowa  
UCLA  
MIT
- 1992 UCSD  
John Hopkins University  
University of Michigan  
McGill University  
University of Montreal  
Queen's University  
Princeton University  
University of Illinois  
Northwestern University  
Cornell University
- 1993 Washington University, Finance Department  
Columbia University  
Syracuse University  
University of Texas – Austin  
Rice University  
Erasmus University
- 1994 UCLA  
USC  
UC Irvine  
Cal Tech  
Penn State University  
Ohio State University  
Boston College  
Board of Governors, Federal Reserve System  
Harvard University
- 1995 Yale University  
Texas A&M University  
Southern Methodist University
- 1996 Cornell University  
Brown University  
SUNY Albany  
University of New Hampshire  
University of Rochester

University of Michigan  
Michigan State University  
Tilburg University  
1997 University of Maryland  
M.I.T.  
Northwestern University  
University of Chicago  
New York Federal Reserve Bank  
University of Guelph  
Princeton University  
University of Wisconsin, Madison  
University of Pennsylvania  
University of Michigan  
1998 Duke University  
Harvard University  
New York University  
University of Kansas  
St. Louis Federal Reserve Board  
University of Southern California/UCLA  
University of Illinois, Urbana-Champaign  
University of Iowa  
1999 Board of Governors (Visiting Scholar, Two presentations)  
Northern Illinois State University  
Northwestern University  
Iowa State University  
UW Chaos and Complexity Seminar  
2000 University of Virginia  
University of Montreal  
2001 University of Pittsburgh  
2004 Southern Methodist University  
Princeton University  
University of Chicago GSB  
Ohio State University  
University of Rochester  
UC Riverside  
UCSD  
Stanford  
UCLA  
2005 Harvard University  
2006 Duke University  
McMaster University  
Texas A&M University  
New York University  
2007 University of Pittsburgh  
Columbia University  
2008 University of British Columbia  
Queen's University  
University of Montreal  
Indiana University

Yale University  
Michigan State University  
2009 NYU Stern School, Statistics Department  
University of Southern California  
Carnegie Mellon University, Statistics Department  
Brown University  
Purdue University  
Northwestern University  
2010 UC Riverside  
UW Madison, Statistics Department  
2011 ITAM (Mexico)  
University of Pennsylvania  
Boston University  
Penn State University  
Queen's University  
University of Michigan  
2012 UW Milwaukee  
Rice University  
MIT/Harvard  
2013 University of Chicago Booth School of Business  
University of Rochester  
Columbia University  
Central Bank of Chile  
Oxford University  
Cambridge University  
2014 Texas A&M University  
Boston College  
Penn State University  
National University of Singapore  
Hong Kong University of Science and Technology  
Chinese University of Hong Kong  
MIT/Harvard  
Montreal Area Econometrics Workshop (Concordia University)  
Cornell University  
University of Maryland  
Georgetown University  
University of Chicago  
2015 Yale University  
University of Michigan  
New York University  
Simon Fraser University  
University of British Columbia  
Princeton University  
2016 Ohio State University  
Northwestern University  
Cornell University  
Occidental College  
UCLA  
KU Leuven

2017 University of Missouri  
University of Nottingham (Granger Lecture)  
University of York  
University of Lancaster  
University of Exeter  
Aarhus University (Creates Distinguished Speaker Lecture)

## Consulting and Outside Activities

State of Wisconsin Investment Board

8/2012 – present

Twice monthly office hours for SWIB staff

Social Security Administration

September 2013

“Uncovering the Relationship between Real Interest Rates and Economic Growth”

Co-authored with Ananth Seshadri

Research paper for SSA

Southern Methodist University

November 2014

External review committee for SMU economics department

Wisconsin Employee Relocation Council

December 2016

Guest speaker on “The Economy Going Forward”