

HEATHER L.R. TIERNEY

CURRICULUM VITA

✦ Contact Information

Tulane University
Economics Department
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New Orleans, LA 70118

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✦ Education

- Ph.D., Economics, University of California, Riverside, June 2005
- M.A., Economics, University of California, Riverside, June 2002
- B.S., Mathematics-Economics, University of California, Los Angeles, June 2000

✦ Thesis Title—Essays on Inflation and Nominal Interest Rates

Thesis Committee: Marcelle Chauvet and Aman Ullah (Co-Chairs)
Gloria Gonzalez-Rivera and Tae-Hwy Lee

✦ Employment Experience

- Visiting Assistant Professor—Tulane University: 2014 to Present
Econ 1020: Intro to Macroeconomics (Fall and Spring Semester)
Econ 3230: Econometrics (Undergraduate) (Spring Semester)
- Economics Author—Sapling Learning: July 2013 to June 2014
- Economics Lecturer—University of California, San Diego (UCSD): 2012-2013
Econ 120A: Econometrics A—Probability and Statistics (Fall Quarter)
Econ 3: Principles of Macroeconomics (Winter and Spring Quarters)
Econ 1: Principles of Microeconomics (Spring Quarter)
- Assistant Professor—College of Charleston: 2005-2012
Principles of Microeconomics; Principles of Macroeconomics;
Money and Financial Institutions
- Instructor—University of California, Riverside (UCR): 2002-2005
Introduction to Money, Banking, and Credit; Statistics for Economics;
Introduction to Macroeconomics
- Teaching Assistant—University of California, Riverside (UCR): 2002-2005

✦ Research

- Areas of Research:
Nonparametric Econometrics, Time Series Econometrics, Real-Time
Data, Search Engine Data, Monetary Policy, Applied Macroeconomics,
Data-Driven Modeling
- Computer Programming Skills: GAUSS, E-Views, Stata

- Refereed Publications
 1. “A Poisson Regression Examination of the Relationship between Website Traffic and Search Engine Queries” with Bing Pan, *NETNOMICS: Economic Research and Electronic Networking*, 13:3, 2013, 155-189.
 2. “Examining the Ability of Core Inflation to Capture the Overall Trend of Total Inflation,” *Applied Economics*, 44:4, 2012, 493-514.
 3. “Real-Time Data Revisions and the PCE Measure of Inflation” *Economic Modelling*, 28:4, 2011, 1763-1773.
 4. “Measurement Error in Monetary Aggregates: A Markov Switching Approach” with William Barnett and Marcelle Chauvet, *Macroeconomic Dynamics*, 13:S2, 2009, 318-412.
 5. “The Non-Parametric Time-Detrended Fisher Effect,” Chapter 3 in *Economic Inflation: Outlook, Issues and Policies*, ed. Leon V. Schwartz, New York: Nova Science Publishing, Inc., 2009 (ISBN: 978-1607418238) —Refereed Book Chapter

- Book
 6. “A Nonparametric Study of Inflation Persistence with Real-time Data: Using Exclusions-from-Core Measures of Inflation,” Berlin: VDM Verlag Publishing House Ltd., 2009 (ISBN: 978-3639111804).

- Other Publications
 7. “A Poisson Regression Examination of the Relationship between Website Traffic and Search Engine Queries” with Bing Pan in *Proceedings of the Joint Statistical Meetings*, 2011.
 8. “Real-Time Data Revisions and the PCE Measure of Inflation” in the *Proceedings of the 30th International Symposium on Forecasting*, 2010
 9. “Assessing the Dynamics of Search Results in Google” with Bing Pan, Zheng Xiang, Daniel R. Fesenmaier, and Rob Law, in *Proceedings of the ENTER Conference on Information Technology and Tourism*, 2010.
 10. “Nonlinear Measurement Errors in Monetary Aggregates”, with William Barnett and Marcelle Chauvet in *Proceedings of the American Statistical Association*, 2009 (Invited).
 11. “Real Time Changes in Monetary Policy: A Nonparametric Approach,” with Marcelle Chauvet in the *Proceedings of the 27th International Symposium on Forecasting*, 2007 (Invited).

- Other Publications—(Continued)
 12. George G.S. Murphy and Heather L.R. Tierney, editors. *Distinguished Comment: Secondary Readings in Economic Doctrines*, Academic Publishing Service, UCLA, Seventh Revised Edition, September 2005, (Including Editions: First up to the Eighth Edition)
- Working Papers
 13. “Forecasting and Tracking Real-Time Data Revisions in Inflation Persistence” (*Submitted to Quantitative Economics*)
 14. “The Effects of Temporal Aggregation on Search Engine Data” with Bing Pan
 15. “Real-Time Changes in Monetary Policy” with Marcelle Chauvet,
 16. “Testing for Financial Market Contagion in the Asian Crises: A Parametric and a Nonparametric Approach Comparison” with Yasemin Ulu
 17. “A Local Conditional Nonparametric Hypothesis Test with Applications to Real-Time Data”
- Work in Progress
 18. “A Nonparametric VAR Model with Local Conditional Orthogonalized Impulse Response Functions”
 19. “Nonlinear Relation of Inflation and Nominal Interest Rates –A Local Nonparametric Investigation,” with Marcelle Chauvet, University of California, Riverside
 20. “A Nonparametric Taylor Rule”
 21. “The Effect of Structural Break Points and Various Measures of Nominal Interest Rates and Inflation on the Fisher Effect”

✦ Professional Activities

- Professional Membership (Includes Previous Membership)
 - American Economic Association (AEA)
 - American Statistical Association (ASA)
 - Econometric Society (ES)
 - Southern Economic Association (SEA)

- Presentations

- 2014 National Council on Compensation Insurance (NCCI),
Boca Raton, FL—January 2014
- 2013 Gettysburg College at Gettysburg, PA—May 2013
University of California San Diego (UCSD) Econometrics
Seminar Series, La Jolla, CA—June 2013
- 2012 United States Military Academy (USMA) at West Point, NY
—March 2012
Bureau for Economic Analysis (BEA)—March 2012
Kansas State University (KSU), Manhattan, KS—March 2012
Colby College, Waterville, ME—April 2012
Moody's Analytics, West Chester, PA—May 2012
Texas A&M University, Corpus Christi, TX—June 2012
Lafayette College Economics Seminar, Easton, PA—Sept 2012
- 2011 Studies in Nonlinear Dynamics and Econometrics (SNDE)
Conference, at George Washington University, Washington, DC
—March 2011
Joint Statistical Meetings (JSM), Miami, FL—July 2011
American Institute for Economic Research (AIER)
—October 2011
Southern Economic Association (SEA) Meeting,
Washington, DC—November 2011
- 2010 College of Charleston, Dept of Economics and Finance
Seminar, Charleston, SC—April 2010
The 30th Annual International Symposium on Forecasting (ISF),
San Diego, CA—June 2010
70th International Atlantic Economic Conference (IAEC),
Charleston, SC—October 2010
- 2009 Studies in Nonlinear Dynamics and Econometrics (SNDE)
Conference, at the Federal Reserve Bank of Atlanta, Atlanta, GA
—April 2009
Joint Statistical Meetings (JSM), Washington DC—August 2009
(*Work Presented by Co-Author, Marcelle Chauvet*)
- 2008 Midwest Econometrics Group (MEG) Meeting, University of
Kansas, Lawrence, KA—October 2008

- Presentations—(Continued)
 - 2008 Southern Economic Association (SEA) Meeting, Washington, DC—November 2008
 - 2007 College of Charleston, Dept of Economics and Finance Seminar, Charleston, SC—January 2007
 - Real-Time Data Analysis and Methods in Economics Conference at the Federal Reserve Bank of Philadelphia, Philadelphia, PA—April 2007 (*Work Presented by Co-Author, Marcelle Chauvet*)
 - North American Summer Meeting of the Econometric Society 2007 at Duke University, Durham, NC—June 2007 (*Work Presented by Co-Author, Marcelle Chauvet*)
 - The 27th Annual International Symposium on Forecasting (ISF), New York, New York—June 2007
 - College of Charleston, Dept of Economics and Finance Seminars, Charleston, SC—September 2007
 - Midwest Econometrics Group (MEG) Meeting, St. Louis University, St. Louis, MO—October 2007
 - Southern Economic Association (SEA) Meeting, New Orleans, Louisiana—November 2007
 - 2006 College of Charleston, Dept of Economics and Finance Seminars, Charleston, SC—January 2006
 - Studies in Nonlinear Dynamics and Econometrics (SNDE) Conference, at Washington University in St. Louis, St. Louis, Missouri—March 2006
 - University of Kansas, Department of Economics, Lawrence, KA—Oswald Distinguished Chair Seminar Series, November 2006 (*Work Presented by Co-Author, Marcelle Chauvet*)
 - Southern Economic Association (SEA) Meeting, Charleston, SC—November 2006
 - 2005 College of Charleston—Charleston, South Carolina
University of California, Riverside—Riverside, California
Youngstown State University—Youngstown, Ohio
Western Illinois University—Macomb, Illinois
Creighton University—Omaha, Nebraska
- Book Proposal Reviewer/Chapter Reviewer
 - Cambridge University Press
 - John Wiley and Sons, Inc.
 - Pearson

- Discussant
 - Southern Economic Association (SEA) Meeting
 - Washington, DC—November 2011
 - Washington, DC—November 2008
 - New Orleans, LA —November 2007
 - Charleston, SC —November 2006
 - The 70th International Atlantic Economic Conference (IAEC),
Charleston, SC—October 2010

- Session Organizer
 - Society for Nonlinear Dynamics and Econometrics (SNDE) Conference,
Washington DC—March 2011 (Invited Session)
 - Forecasting and Financial Shocks
 - Southern Economic Association (SEA) Meeting
 - Washington, DC—November 2011—Two Sessions
 - Washington, DC—November 2008—Two Sessions

- Session Chair
 - International Symposium on Forecasting (ISF)
 - The 30th Annual Symposium San Diego, CA—June 2010
 - The 27th Annual Symposium New York, NY—June 2007
 - Midwest Econometrics Group (MEG) Meeting
 - University of Kansas, Lawrence, KA—October 2008
 - St. Louis University, St. Louis, MO—October 2007
 - Society for Nonlinear Dynamics and Econometrics (SNDE) Conference
 - George Washington University, Washington DC—Mar 2011
 - Federal Reserve Bank of Atlanta, Atlanta, GA—April 2009
 - Southern Economic Association (SEA) Meeting
 - Washington, DC—November 2011
 - Washington, DC—November 2008
 - New Orleans, LA —November 2007
 - The 70th International Atlantic Economic Conference (IAEC),
Charleston, SC—October 2010

- Referee for Journals
 - Econometric Reviews
 - Economic Modelling
 - Empirical Economics
 - Journal of Economics (MVEA)
—(Journal of the Missouri Valley Economic Association)
 - Macroeconomic Dynamics
 - Revista Colombiana de Estadística—(Colombian Journal of Statistics)

✦ Service

Service at the University of California, San Diego

- Academic and Career Advising: Fall 2012 to Spring 2013
- Dine-with-a-Prof: Fall 2012 to Spring 2013
- Faculty Advisor—Academic Internship Program (AIP): Spring 2013

Previous Service at the College of Charleston

- Academic Advisor: 2006-2012
- Campus-Wide Committee Service at the College of Charleston
 - 2010-2011: Faculty Advisory Committee to the President
 - 2007-2010: Faculty Committee on Graduate & Continuing Education
 - Chair from 2008-2009 and 2009-2010
 - Member from 2007-2008
 - 2006-2007: General Education Committee
- Habitat for Humanity Chapter at the College of Charleston
 - Faculty Advisor: 2006-2012
 - Alternative Spring Break (Habitat for Humanity)
 - Escorted 18 students to Homestead, FL—March 2008
 - Escorted 18 students to Violet, Louisiana to help with the rebuilding of New Orleans, LA—March, 2007
- Independent Study: Fall 2007 to Spring 2011
(9 students—Includes Honors College)
- Web Master for Dept of Economics and Finance: Fall 2005-Spring 2008
- Mentoring—Senior Thesis for Student of Academic Magnet High School, North Charleston, SC: Spring 2008 to Fall 2009

✦ Honors and Awards

- Travel Award from the 30th Annual International Symposium on Forecasting (ISF), San Diego, CA—June 2010
- School of Business and Economics Summer Research Award at the College of Charleston: Two years: 2005 and 2006
- Outstanding Teaching Assistant of the Year for Economics at the University of California, Riverside: Two years: 2002-2003 and 2003-2004
- The Four-Year Chancellor's Distinguished Fellowship Award at the University of California, Riverside—September 2000-June 2004

✚ References

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✦ Summary of Selected Research

- “Forecasting and Tracking Real-Time Data Revisions in Inflation Persistence”
(Submitted to the *Quantitative Economics*)

The purpose of this paper is to examine the forecasting ability of sixty-two vintages of revised real-time PCE and core PCE using nonparametric methodologies. The combined fields of real-time data and nonparametric forecasting have not been previously explored with rigor, which this paper remedies. The contributions of this paper are on the three fronts of (i.) analysis of real-time data; (ii.) the additional benefits of using nonparametric econometrics to examine real-time data; and (iii.) nonparametric forecasting with real-time data. Regarding the analysis of real-time data revisions, this paper finds that the third quarter releases of real-time data have the largest number of data revisions. Secondly, nonparametric regressions are beneficial in utilizing the information provided by data revisions, which typically are just a few tenths in magnitude but are significant enough to statistically affect regression results. The deviations in window widths can be useful in identifying potential problematic time periods such as a large spike in oil prices. The third and final front of this paper regards nonparametric forecasting and the best performing real-time data release with the three local nonparametric forecasting methods outperforming the parametric benchmark forecasts. Lastly, this paper shows that the best performing quarterly-release of real-time data is dependent on the benchmark revision periods. For vintages 1996:Q1 to 2003:Q3, the second quarter real-time data releases produce the smaller RMSE 58% of the time and for vintages 2003:Q4 to 2011:Q2, the third quarter real-time data releases produce forecasts with smaller RMSE approximately 60% of the time.

- “Examining the Ability of Core Inflation to Capture the Overall Trend of Total Inflation,” *Applied Economics*, 44:4, 2012, 493-514.

This article examines whether core inflation is able to predict the overall trend of total inflation using real-time data in a parametric and nonparametric framework. Specifically, two sample periods and five in-sample forecast horizons in two measures of inflation, which are the Personal Consumption Expenditure (PCE) and the Consumer Price Index (CPI), are used in the exclusions-from-core inflation persistence model. This article finds that core inflation is only able to capture the overall trend of total inflation for the 12-quarter in-sample forecast horizon using the CPI in both the parametric and nonparametric models in the longer sample period. The nonparametric model outperforms the parametric model for both data samples and for all five in-sample forecast horizons.

- “Real-Time Data Revisions and the PCE Measure of Inflation” *Economic Modelling*, 28:4, 2011, 1763-1773.

This paper tracks data revisions in the Personal Consumption Expenditure using the exclusions-from-core inflation persistence model. Keeping the number of observations the same, the regression parameters of earlier vintages of real-time data, beginning with vintage 1996:Q1, are tested for coincidence against the regression parameters of the last vintage of real-time data, used in this paper, which is vintage 2008:Q2 in a parametric and two nonparametric frameworks. The effects of data revisions are not detectable in the vast majority of cases in the parametric model, but the flexibility of the two nonparametric models is able to utilize the data revisions.

- “A Poisson Regression Examination of the Relationship between Website Traffic and Search Engine Queries” with Bing Pan, *NETNOMICS: Economic Research and Electronic Networking*, 13:3, 2013, 155-189.

A new area of research involves the use of normalized and scaled Google search volume data to predict economic activity. This new source of data holds both many advantages as well as disadvantages. Daily and weekly data are employed to show the effect of aggregation in Google data, which can lead to contradictory findings. In this paper, Poisson regressions are used to explore the relationship between the online traffic to a specific website and the search volumes for certain search queries, along with the rankings of that website for those queries. The purpose of this paper is to point out the benefits and the pitfalls of a potential new source of data that lacks transparency in regards to the raw data, which is due to the normalization and scaling procedures utilized by Google.

- “Real-Time Changes in Monetary Policy” with Marcelle Chauvet

This paper investigates potential changes in monetary policy over the last decades using a nonparametric vector autoregression model. In the proposed model, the conditional mean and variance are time-dependent and estimated using a nonparametric local linear method, which allows for different forms of nonlinearity, conditional heteroskedasticity, and non-normality. Our results suggest that there have been gradual and abrupt changes in the variances of shocks, in the monetary transmission mechanism, and in the Fed’s reaction function. The response of output was strongest during Volcker’s disinflationary period and has since been slowly decreasing over time. There have been some abrupt changes in the response of inflation, especially in the early 1980s, but we can not conclude that it is weaker now than in previous periods. Finally, we find significant evidence that policy was passive during some parts of Burn’s period and active during Volcker’s disinflationary period and Greenspan’s period. However, we find that the uncovered behavior of the parameters is more complex than general conclusions suggest, since they display considerable nonlinearities over time. A particular appeal of the recursive estimation of the proposed VAR-ARCH is the detection of discrete local deviations as well as more gradual ones, without smoothing the timing or magnitude of the changes.