

## Curriculum vitae

# Randal John Verbrugge

Current Position: Senior Research Economist, Federal Reserve Bank of Cleveland  
September, 2023

## BUSINESS ADDRESS

Research Department  
Federal Reserve Bank of Cleveland  
1455 E. 6<sup>th</sup> St  
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216.774.2709  
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## FIELDS

Macroeconomics, Housing, Applied Time Series, Inflation Measurement.

## EDUCATION

- Ph.D. (Economics), Stanford University, 1995.  
Dissertation: *Local Market Interactions and Aggregate Fluctuations*, August 1995.  
Principal advisor: Robert E. Hall.  
Other committee members: Kenneth Judd, Michael T. K. Horvath.
- M.S. (Statistics), Stanford University, 1993.
- B.A. (Honors) (Social Sciences), Calvin College, 1989.

## PRINCIPAL APPOINTMENTS

- Federal Reserve Board (Rotation in IO Section), Sep 2022-Aug 2023.
- Senior Research Economist, Federal Reserve Bank of Cleveland, 2013-present.
- Visiting Consultant, Bureau of Labor Statistics (IPA agreement), 2017-2020; 2023-
- Research Economist, Bureau of Labor Statistics, 2001-2013.
- NBER/CRIW, 2011-present.
- Adjunct Professor, Kent State University, Spring 2019.
- Adjunct Professor, Georgetown University, 2001-2013.
- Assistant Professor, Virginia Tech, 1995-2001.

## PUBLICATIONS

- Disentangling Rent Index Differences: Data, Methods, and Scope (with Brian Adams, Lara Loewenstein, and Hugh Montag) (2023). Forthcoming, *American Economic Review: Insights*.
- Post-COVID Inflation Dynamics: Higher for Longer (with Saeed Zaman). Forthcoming, *Journal of Forecasting*.

- Improving Inflation Forecasts Using Robust Measures (with Saeed Zaman). In Press, *International Journal of Forecasting*.
- The Hard Road to a Soft Landing: Evidence from a (Modestly) Nonlinear Structural Model (with Saeed Zaman) (2023). *Energy Economics*, 123, 106733.
- Out of Bounds: Do SPF Respondents Have Anchored Inflation Expectations? (with Wesley Janson and Carola Binder). *Journal of Money, Credit and Banking*, 55(2-3), 2023, 559-576.
- Is It Time to Reassess the Focal Role of Core PCE Inflation in Assessing the Trend in PCE Inflation? *Economía* 45(89), 2022, 73-101 (special issue: Recent Developments in Inflation Dynamics).
- Robust Covariance Matrix Estimation and Identification of Unusual Data Points: New Tools (with Christian Garciga). *Research in Economics*, 75(2), June 2021, 176-202.
- A New Look at Historical Monetary Policy (and the Great Inflation) Through the Lens of a Persistence-Dependent Policy Rule (with Richard Ashley and Kwok Ping Tsang) *Oxford Economic Papers*, 72(3), July 2020, 672–691.
- A Theory of Sticky Rents: Search and Bargaining with Incomplete Information (with Joshua Gallin) *Journal of Economic Theory*, 183, September 2019, 478-519.
- Determinants of Differential Rent Changes: Mean Reversion Versus the Usual Suspects (with A. Dorfman, W. Johnson, F. Marsh, R. Poole, and O. Shoemaker) *Real Estate Economics*, 45(3), Autumn 2017, 591–627.
- The Equilibrium Effect of Fundamentals on House Prices and Rents (with Kamila Sommer and Paul Sullivan) *Journal of Monetary Economics*, 60(7), October 2013 (formerly titled, Run-up in the House Price-Rent Ratio: How Much Can Be Explained by Fundamentals?)
- Do the CPI's Utilities Adjustments for OER Distort Inflation Measurement? *Journal of Business & Economic Statistics*, 30(1), February 2012, 143-148.
- Home Production and Endogenous Economic Growth. (with Steven Silver). *Journal of Economic Behavior and Organization*, 75(2), August 2010, 297-312.
- Explaining the Rent-OER Inflation Divergence, 1999-2006 (with Rob Poole). *Real Estate Economics*, 38(4), Winter 2010, 633-657.
- Reconciling User Costs and Rental Equivalence: Evidence from the U.S. Consumer Expenditure Survey (with Thesia Garner). *Journal of Housing Economics* 18(3), September 2009, 172–192.
- To Difference or Not to Difference: a Monte Carlo Investigation of Spurious Regression in Vector Autoregressive Models (with Rick Ashley). *International Journal of Data Analysis Techniques and Strategies*, 1(3), March 2009, 242-274.
- The Puzzling Divergence of Aggregate Rents and User Costs, 1980-2004: Summary and Extensions (with Thesia Garner) in *Price and Productivity Measurement, Vol. I: Housing*, Eds. W. Erwin Diewert, Bert M. Balk, Dennis Fixler, Kevin J. Fox and Alice O. Nakamura, Trafford Press, 2009.
- Frequency Dependence in Regression Model Coefficients: An Alternative Approach for Modeling Nonlinear Dynamic Relationships in Time Series (with Richard Ashley). *Econometric Reviews*, 28(1–3), 2009, 4-20.
- The Puzzling Divergence of Aggregate Rents and User Costs, 1980-2004. *The Review of Income and Wealth*, 54(4), December 2008, 671-699.
- Comments on 'A Critical Investigation on Detrending Procedures for Non-Linear Processes' (with Richard Ashley). *Journal of Macroeconomics* 28, 2006, 192-4.
- How Corruption Evolves (or, Why Do Some Regions Within a Country Become More Corrupt Than Others?). *Journal of Public Economic Theory* 8(2), 2006, 219-245.
- Interactive Agent Economies: An Elucidative Framework and Survey of Results. (formerly titled, "Interaction in Finite Economies."). *Macroeconomic Dynamics* 7(3), 2003, 424-472.
- Longitudinal Inflation Asymmetry. *Applied Economics Letters* 9, 2002, 261-264.

- Price Discrimination in Rental Markets. (with Sudipta Sarangi). *Economics Letters* 69(2), 2000, 153-158.
- Risk Aversion, Learning Spillovers, and Path Dependent Economic Growth. *Economics Letters* 68(1), 2000, 197-202.
- Cross-Sectional Inflation Asymmetries and Core Inflation: A Comment on Bryan and Cecchetti. *The Review of Economics and Statistics* 81(2), May 1999, 199-202.
- Investigating Cyclical Asymmetries. *Studies in Nonlinear Dynamics and Econometrics*, 2(1), 1997, 15-22.

## SELECTED RESEARCH PAPERS

- The Intermittent Phillips Curve: Finding a Stable (But Persistence-Dependent) Phillips Curve Model Specification (with Rick Ashley) (2022). (Formerly titled, Finding a Stable Phillips Curve Relationship: A Persistence-Dependent (And Business-Cycle-Phase-Dependent) Regression Model and before that, Variation in the Phillips Curve Relation Across Three Phases of the Business Cycle, and before that, The Phillips Curve Has Two Gaps.) Federal Reserve Bank of Cleveland, Working Papers WP 19-09R. Under review.
- Late Payment Fees and Nonpayment in Rental Markets, and Implications for Inflation Measurement: Theoretical Considerations and Evidence (with Wesley Janson) (2021).
- Location, Location, Structure Type: Rent Divergence Within Neighborhoods. (with Brian Adams).
- Panel Data Estimates of Age-Rent Profiles for Rental Housing (with Joshua Gallin) R&R, *Journal of Housing Economics*.
- Persistence Dependence in Empirical Relations: The Velocity of Money (with Rick Ashley).
- Sticky Rents (with Joshua Gallin).
- Tracking Trend Inflation: Nonseasonally Adjusted Variants of the Median and Trimmed-Mean CPI (with Amy Higgins)
- Improving the CPI's Age-Bias Adjustment: Leverage, Disaggregation and Model-Averaging (with Joshua Gallin).

## RESEARCH PAPERS IN PREPARATION

- How Pre-Filtering Variables in a Dynamic Time-Series Model Induces Endogeneity in Its (Formerly Pre-Determined) Explanatory Variables (with Rick Ashley).
- Time Series Filtering for Studying Frequency Dependence: What Works, What Doesn't (with Rick Ashley). Synopsis: Two-sided filtering can yield highly counterfactual inferences. Further, the FDR method (Ashley/Verbrugge, 2009) dominates Hamilton's method for identifying "trend" and integrates well into indirect inference estimation of DSGE models. This gracefully addresses the difficulty of low-frequency trends in the data that are not part of the model, without having to specify ad-hoc persistent components (such as measurement error). (with Rick Ashley).
- Detecting unobserved variables in your data. (with Wesley Janson).

## FRBC PUBLICATIONS

### ECONOMIC COMMENTARY:

- Adjusting Median and Trimmed-Mean Inflation Rates for Bias Based on Skewness (with Robert Rich and Saeed Zaman). 2022.
- Whose Expectations Best Predict Inflation? (with Saeed Zaman). 2021.

- The CPI-PCEPI Inflation Differential: Causes and Prospects (with Carola Binder and Wesley Janson). 2020.
- Behavior of a New Median PCE Measure: A Tale of Tails (with Daniel R. Carroll) 2019.
- Federal Funds Rates Based on Seven Simple Monetary Policy Rules (with Edward Knotek, Christian Garciga, Caitlin Treanor, and Saeed Zaman) 2016.
- Digging Into the Downward Trend in Consumer Inflation Expectations (with Carola Binder) 2016.
- Is A Nonseasonally Adjusted Median CPI a Useful Signal of Trend Inflation? (with Amy Higgins) 2015.
- How Much Slack is in the Labor Market? That Depends on What You Mean by Slack (with Murat Tasci) 2014.

#### ECONOMIC TRENDS:

- Healthcare Inflation and the Core Inflation Gap (with Christian Garciga)
- Do Energy Prices Drive the Long-Term Inflation Expectations of Households? (with Amy Higgins)
- Recent Owners' Equivalent Rent Inflation is Probably Not a Blip (with Amy Higgins)
- Implications of the Government Shutdown on Inflation Estimates (with Sara Millington)

#### PROFESSIONAL SERVICE

BEA Advisory Committee, Nov. 2019

#### REFEREE SERVICE

*American Economics Journal (Macroeconomics), European Economic Review, National Science Foundation, Journal of Monetary Economics, Journal of Money, Credit and Banking, Regional Science and Urban Economics, Review of Economic Dynamics, The Review of Economics and Statistics, Studies in Nonlinear Dynamics and Econometrics, Journal of Economic Dynamics and Control, Journal of Official Statistics, SSHRC, Journal of Housing Economics.*

#### NATIONALITY

USA.

## TEACHING EXPERIENCE

### **Instructor**

Spring 2019 (Kent State) Masters level macroeconomics  
Summer 2012-2013 (Georgetown) Masters level International Finance  
Spring 2012-2013 (Georgetown) Masters level Economic Development  
2002-2013 (Georgetown) Undergraduate international finance.  
2006-2013 (Georgetown) Economic Development  
Spring 2000 (VPI&SU) Principles of macroeconomics.  
Fall 1999 (VPI&SU) Undergraduate international finance.  
Principles of macroeconomics.  
Spring 1999 (VPI&SU) Graduate international finance.  
Undergraduate international finance.  
Fall 1998 (VPI&SU) Principles of macroeconomics.  
Spring 1998 (VPI&SU) Graduate macroeconomics I.  
Undergraduate international finance.  
Fall 1997 (VPI&SU) Principles of macroeconomics (2 sections)  
Summer 1997 (VPI&SU) Undergraduate international finance.  
Spring 1997 (VPI&SU) Directed reading, empirical international macroeconomics.  
Fall 1996 (VPI&SU): Undergraduate international finance.  
Graduate macroeconomics I.  
Summer 1996 (VPI&SU) Principles of macroeconomics.  
Spring 1996 (VPI&SU): Undergraduate international finance.  
Graduate international finance (1/2 course).  
Fall 1995 (VPI&SU): Principles of macroeconomics.  
Undergraduate international finance.  
Spring 1995 (Stanford): Intermediate macroeconomics (with Charles Jones).  
Summer 1993 (Stanford): Math review course for incoming Ph.D. students.

### **Teaching Assistant**

Autumn 1994: - for Michael Horvath, undergraduate applied macroeconomics.  
Spring 1993: - for David Starrett, graduate microeconomics.  
Winter 1993: - for Hans Wijkander, intermediate microeconomics.  
Autumn 1993: - for Orazio Attanasio, graduate macroeconomics.  
Spring 1992: - for Robert Staiger, undergraduate international trade.

### **Tutor**

1986-1989: Chemistry and economics, Calvin College.

## TEACHING AND LEARNING TRAINING

Faculty Development Institute, Summer 1996 (or 1997).  
University Writing Program Summer Seminar, Summer 1996.  
Advanced Powerpoint Workshop, Fall 1997.  
Advanced Authorware Workshop, Fall 1997.  
Advanced Whiz Quiz Training, Fall 1997.  
Using Technology in Teaching Economics, conference session, ASSA meetings, 1998.  
Using Technology in Teaching Economics, conference session, Midwest Economics Assoc., 1999.

## UNIVERSITY SERVICE (VPI&SU)

Economics Club Advisor, 1995 - 2001.  
Omicron Delta Epsilon Club Advisor, 1996 - 2001.  
Personnel Committee (two years)  
Undergraduate Advisor (two years)  
Qualifying Exam Committee, Co-chair (three years)  
Committee for the Joint Graduate Program (two years)  
Dissertation Defenses: Joachim Schleich (AAEC)  
Seminar Coordinator (two years)

## CONFERENCE PRESENTATIONS

SNDE conference (under auspices of Eastern Economics Association), Boston, March 1996.  
Society of Economic Dynamics and Control, Mexico City, June 1996.  
Southeastern Economic Theory and International Economics Conference, November 1997.  
NBER Macroeconomics Summer Institute: 1995, 1998, 2008.  
Southeastern Economic Theory and International Economics Conference, September 1998.  
Midwest Macroeconomics Conference, October 1998, April 1999, April 2002, May 2009, Spring 2019, Fall 2019.  
Midwest Economic Association, March 1999.  
Midwest Econometrics Group, 1999, 2015.  
Southeastern Economic Theory and International Economics Conference, November 1999.  
Workshop on Interacting Heterogeneous Agents, June 2002.  
European Econometric Society Meetings, August 2002, August 2009  
Brookings Conference on Pricing Services, March 2003.  
North American Econometric Society Summer Meetings, June 2003, June 2007.  
North American Econometric Society Winter Meetings, January 2004 (Discussant).  
SSHRC, Vancouver, Summer 2004.  
IARIW, August 2004.  
Fourth Ottawa Productivity Workshop, Feb. 2005 (Discussant).  
Federal Economic Statistics Advisory Committee, Dec. 2005.  
Ottawa Group, 2008.  
The 2008 World Congress on National Accounts and Economic Performance Measures for Nations.  
Ottawa Productivity Workshop, 2009 (Expert working group pre-conference)  
AREUAE Mid-Year Meetings, 2009  
First Biennial Conference, Georgetown Center for Economic Research, 2011  
Southern Economics Association, 2011  
EACBN (Inflation developments after the great recession), 2013  
Federal Reserve System Macroeconomics Conference, 2016  
Joint Statistical Meetings, 2017

## SEMINAR PRESENTATIONS

Baylor University (1996)  
Board of Governors of the Federal Reserve System (1996, 2005)  
Bureau of Labor Statistics (2001 – 2012)  
Bureau of Economic Analysis (2005)  
Cal State Sacramento (2001)  
Cambridge University (1996)  
Carleton University (2008)  
Cleveland State University (2017)

Federal Reserve Bank of Boston (1996)  
Federal Reserve Bank of Cleveland (2013-19)  
Federal Reserve Bank of Richmond (1996)  
George Washington University (2008)  
Grand Valley State University (2001)  
Kalamazoo College (2001)  
SUNY-Binghamton (2001)  
Stanford University (1993, 1994, 1995)  
Tufts University (1995, 2001)  
United States Naval Academy (2001)  
University of Arkansas (1996)  
University of Virginia (1999)  
Virginia Commonwealth University (1999)  
VPI&SU (1995, 1995, 1998, 2002)