

# Brantly Callaway

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## Academic Appointments

University of Georgia, John Munro Godfrey, Sr. Department of Economics, 2020-

Associate Professor, 2023-

Assistant Professor, 2020-2023

### *Previous Positions:*

Assistant Professor, Department of Economics, University of Mississippi, 2019-2020

Assistant Professor, Department of Economics, Temple University, 2016-2019

## Education

Ph.D., Economics, Vanderbilt University, 2016

Dissertation: “Essays on Distributional Treatment Effects with Panel Data”

Committee: Tong Li (chair), William Collins, Federico Gutierrez, Atsushi Inoue

M.S., Economics, Georgia Institute of Technology, 2010

B.S., Computer Science, Georgia Institute of Technology, 2007

## Research Interests

Panel Data Econometrics, Microeconometrics, and Labor Economics

## Publications

1. Event-Studies with a Continuous Treatment, with Andrew Goodman-Bacon and Pedro H.C. Sant’Anna, *AEA Papers & Proceedings*, Vol. 114, pp. 601–605, 2024.
2. Policy Evaluation during a Pandemic, with Tong Li, *Journal of Econometrics*, Vol. 236, No. 1, 2023.
3. Evaluating Policies Early in a Pandemic: Bounding Policy Effects with Nonrandomly Missing Data, with Tong Li, Forthcoming at *Review of Economics and Statistics*.

4. Difference-in-Differences for Policy Evaluation, In: Zimmermann, K.F. (eds) *Handbook of Labor, Human Resources and Population Economics*, pp. 1–61, 2023.
5. Treatment Effects in Interactive Fixed Effects Models with a Small Number of Time Periods, with Sonia Karami, *Journal of Econometrics*, Vol. 233, No. 1, pp. 184–208, 2023.
6. Heterogeneous Effects of Job Displacement on Earnings, with Afrouz Azadikhah Jahromi, *Empirical Economics*, Vol. 62, No. 1, pp. 213–245, 2022.
7. Difference in Differences with Multiple Time Periods, with Pedro Sant’Anna, *Journal of Econometrics*, Vol. 225, No. 2, pp. 200–230, 2021.
8. Bounds on Distributional Treatment Effect Parameters using Panel Data with an Application on Job Displacement, *Journal of Econometrics*, Vol. 222, No. 2, pp. 861–881, 2021.
9. Distributional Effects of a Continuous Treatment with an Application on Intergenerational Mobility, with Weige Huang, *Oxford Bulletin of Economics and Statistics*, Vol. 82, No. 4, pp. 808–842, 2020.
10. Quantile Treatment Effects in Difference in Differences Models with Panel Data, with Tong Li, *Quantitative Economics*, Vol. 10, No. 4, pp. 1579–1618, 2019.
11. Local Intergenerational Elasticities, with Weige Huang, *Economics Bulletin*, Vol. 39, No. 2, pp. 919–928, 2019.
12. Quantile Treatment Effects in Difference in Differences Models under Dependence Restrictions and with only Two Time Periods, with Tong Li and Tatsushi Oka, *Journal of Econometrics*, Vol. 206, No. 2, pp. 395–418, 2018.
13. Unions, Workers, and Wages at the Peak of the American Labor Movement, with William Collins, *Explorations in Economic History*, Vol. 68, pp. 95–118, 2018.

## Working Papers

1. Difference-in-Differences Designs: A Practitioner’s Guide, with Andrew Baker, Scott Cunningham, Andrew Goodman-Bacon, and Pedro H.C. Sant’Anna, revise and resubmit
2. Treatment Effects in Staggered Adoption Designs with Non-Parallel Trends, with Emmanuel Tsyawo
3. Regulation, Emissions and Productivity: Evidence from China’s Eleventh Five-Year Plan, with Tong Li, Joel Rodrigue, Yuya Sasaki, and Yong Tan, submitted
4. Difference-in-Differences when Parallel Trends Holds Conditional on Covariates, with Carolina Caetano
5. Distributional Effects with Two-Sided Measurement Error: An Application to Intergenerational Income Mobility, with Tong Li and Irina Murtazashvili, submitted
6. Difference-in-Differences with a Continuous Treatment, with Andrew Goodman-Bacon and Pedro H.C. Sant’Anna, revise and resubmit

## Works in Progress

1. Testing the Effects of an Unobservable Factor: Do Marriage Prospects Affect College-Major Choice?, with Hayri Alper Arslan and Tong Li
2. Inference on Counterfactual Transition Matrices, with Chengye Jia and Karen Yan
3. Difference-in-Differences with Bad Controls, with Carolina Caetano, Stroud Payne, and Hugo Sant'Anna

## Resting Papers

1. Adoption and Diffusion of Health Information Technology: The Case of Primary Care Clinics, with Vivek Ghosal (2012)
2. Difference in Differences with Time-Varying Covariates, with Carolina Caetano, Stroud Payne, and Hugo Rodrigues (2022), this paper replaced by “Difference-in-Differences with Covariates in the Parallel Trends Assumption” and by “Difference-in-Differences with Bad Controls”.

## Teaching

### University of Georgia

Introduction to Econometrics (Undergraduate): 2020-2024

Introduction to Econometrics (Ph.D.): 2021-2024

Statistics for Econometrics (Ph.D.): 2022

### University of Mississippi

Econometrics II (Ph.D.): 2020

Probability and Statistics (Ph.D.): 2019

### Temple University

Econometrics II (Ph.D.): 2017, 2018, 2019

Introduction to Econometrics (Undergraduate): 2017, 2018, 2019

### Vanderbilt University

Economic Statistics (Undergraduate): 2013

### Vanderbilt University, Teaching Assistant

Probability and Statistics (Ph.D.): 2014

Econometrics I (Ph.D.): 2013, 2014

Econometrics II (Ph.D.): 2012, 2014

Microeconomics (Ph.D.): 2014, 2015

Macroeconomics (Ph.D.): 2012

Time Series Econometrics (M.A.): 2015

Poverty and Discrimination (Undergraduate): 2013  
Intermediate Macroeconomic Theory (Undergraduate): 2012  
Economic Statistics (Undergraduate): 2011

#### Short Courses on Difference-in-Differences

Louisiana State University: 2024  
University of Georgia: 2024  
Mixtape Sessions, Frontiers in Difference-in-Differences: 2023  
Northwestern Causal Inference Workshop: 2023  
Fondazione Eni Enrico Mattei (FEEM): 2021  
University of Louisiana at Lafayette: 2020

## Software

1. R `qte` package: Code for estimating quantile treatment effects particularly when panel data is available
  - Available at [bcallaway11.github.io/qte](https://bcallaway11.github.io/qte)
2. R `did` package: Code for difference-in-differences with multiple time periods and variation in treatment timing
  - Available at [bcallaway11.github.io/did](https://bcallaway11.github.io/did)
3. R `ife` package: Code for treatment effects in interactive fixed effects models with a small number of time periods
  - Available at [github.com/bcallaway11/ife](https://github.com/bcallaway11/ife)
4. R `pte` package: Generic functions for treatment effects with panel data
  - Available at [github.com/bcallaway11/pte](https://github.com/bcallaway11/pte)
5. R `ppe` package: Code for policy evaluation during a pandemic
  - Available at [github.com/bcallaway11/ppe](https://github.com/bcallaway11/ppe)
6. R `BMisc` package: Miscellaneous functions for working with panel data, distribution functions, and dealing with formulas
  - Available at [bcallaway11.github.io/BMisc](https://bcallaway11.github.io/BMisc)
7. R `csabounds` package: Implements tight bounds on the distribution and quantile of the treatment effect when panel data is available
  - Available at [bcallaway11.github.io/csabounds](https://bcallaway11.github.io/csabounds)
8. R `ccfa` package: Tools for constructing counterfactual distributions with a continuous treatment
  - Available at [weigehuangecon.github.io/ccfa](https://weigehuangecon.github.io/ccfa)
9. R `distreg` package: Functions related to distribution regression
  - Available at [github.com/bcallaway11/distreg](https://github.com/bcallaway11/distreg)
10. R `lige` package: Code to compute local versions of intergenerational elasticities
  - Available at [github.com/bcallaway11/lige](https://github.com/bcallaway11/lige)

11. R `qrme` package: Code for quantile regression with measurement error and nonlinear models with two-sided measurement error
  - Available at [github.com/bcallaway11/qrme](https://github.com/bcallaway11/qrme)
12. R `revealEquations` package: Code for revealing math line-by-line in Quarto or Xaringan presentations.
  - Available at [github.com/bcallaway11/revealEquations](https://github.com/bcallaway11/revealEquations)
13. R `twfeweights` package: Code for computing (implicit) regression weights in TWFE regressions with multiple periods and specifications that include covariates.
  - Available at [github.com/bcallaway11/twfeweights](https://github.com/bcallaway11/twfeweights)
14. R `kotlarski` code: Code for estimating the distribution of a latent variable when repeated measurements are available using Kotlarski's Lemma
  - Available at [github.com/bcallaway11/kotlarski](https://github.com/bcallaway11/kotlarski)

## Honors and Fellowships

1. Aigner Award (best applied paper at the *Journal of Econometrics*) for “Difference in differences with multiple time periods”, 2023
2. Vanderbilt University Economics Fellowship, 2010-2016
3. Noel Dissertation Fellowship, 2015

## Other Research Experience and Employment

1. Vanderbilt University
  - Research Assistant for Tong Li, 2013-2016
  - Research Assistant for William Collins, 2013
  - Research Assistant for Yanqin Fan, 2012
2. Georgia Institute of Technology
  - Research Assistant for Vivek Ghosal, 2009-2010
3. Home Depot, Atlanta, GA
  - Information Technology Developer, 2007-2008

## Advising

### Dissertation Committee Chair

1. Chengye Jia: Ph.D., Temple University, 2021, First Placement: Shandong University of Finance and Economics
2. Sonia Karami: Ph.D. Temple University, 2021, First Placement: Data Scientist, Federal Reserve Bank of Richmond

3. Emmanuel Tsyawo: Ph.D., Temple University, 2020. First Placement: Assistant Professor, Mohammed VI Polytechnic University
4. Qin Wei: Ph.D., Temple University, 2020, First Placement: Depository Trust & Clearing Corporation
5. Afrouz Azadikhah-Jahromi: Ph.D., Temple University, 2019. First Placement: Assistant Professor, Widener University.
6. Weige Huang: Ph.D., Temple University, 2019. First Placement: Assistant Professor, Wenlan School of Business, Zhongnan University of Economics and Law, Current Position: Associate Professor, Shenzhen MSU-BIT University

#### Dissertation Committee Member

1. Hugo Sant'Anna: Ph.D., University of Georgia, in progress
2. Pablo Troncoso: Ph.D., University of Georgia, 2023. First Placement: Instructional Assistant Professor, University of Houston.
3. Chenchen Xie: Ph.D., Temple University, 2021.

#### M.A. Thesis Advisor

1. Stroud Payne: M.A., University of Georgia, 2022, Placement: Vanderbilt University Ph.D. program

#### M.A. Thesis Committee Member

1. Emmett Allen: M.A., University of Georgia, 2023.

## Professional Activities

#### Invited Seminars:

1. University of Arkansas, 2024 (scheduled)
2. Brandeis University, 2024
3. Georgetown University, 2024
4. Toronto Metropolitan University, 2024
5. Tanzania's Economic and Social Research Foundation, 2024
6. Central European University, 2023
7. George Washington University, 2023
8. Miami University, 2023
9. NEXT-D Workshop at Tulane University, 2023
10. Northeastern University, 2023
11. Queen's University, 2023
12. University of Connecticut, 2023
13. Urban Institute, 2023
14. Virginia Tech, 2023
15. Washington University in St. Louis, 2023

16. Auburn University, 2022,
17. Bureau of Economic Analysis, 2022
18. Columbia University, 2022
19. Emory Quantitative Theory and Methods, 2022
20. Florida State University, 2022
21. McMaster University, 2022
22. Northwestern University, 2022
23. University of Duisburg-Essen, 2022
24. University of Illinois Urbana-Champaign, 2022
25. University of Virginia, 2022
26. University of Wisconsin Agricultural and Applied Economics, 2022
27. University of Zurich, 2022
28. Zhongnan University of Economics and Law, 2022
29. Workshop on current issues in difference-in-differences and two-way fixed effect research designs at the University of Michigan, 2022
30. Amazon, 2021
31. Brown University, 2021
32. Icesi University, 2021
33. Michigan State University, 2021
34. Monash University, 2021
35. University of São Paulo, 2021
36. Difference in Differences Reading Group, 2021
37. One World YoungStats Webinar, 2021
38. Texas A&M, 2020
39. UC Merced, 2020
40. University of Georgia, 2020
41. Vanderbilt University, 2020
42. Southern Methodist University, 2019
43. University of Central Florida, 2018
44. University of Mississippi, 2018
45. University of Pennsylvania, 2018
46. Baylor University, 2016
47. Bureau of Economic Analysis, 2016
48. Concordia University, 2016
49. Consumer Financial Protection Bureau, 2016
50. Indiana University, 2016
51. Lancaster University, 2016
52. Mathematica Policy Research, 2016

53. Temple University, 2016
54. UC Davis, 2016
55. UC Merced, 2016

Conference Presentations:

1. Econometric Society Summer Meetings, 2024
2. Canadian Econometrics Study Group, 2023
3. Georgia Econometrics Workshop, 2023
4. Kansas University Econometrics Workshop, 2023
5. Midwest Econometrics Group, 2023
6. Southern Economics Association Conference, 2023
7. Econometric Society Summer Meetings, 2022
8. International Association of Applied Econometrics, 2022
9. Midwest Econometrics Group Conference, 2022
10. Society of Labor Economists, 2022
11. Southern Economics Association Conference, 2022
12. 17th IZA & 4th IZA/CREST Conference: Labor Market Policy Evaluation, 2022
13. Annual Health Econometrics Workshop, 2021
14. 26th International Panel Data Conference, 2021
15. Southern Economics Association Conference, 2021
16. Labor Breakfast Roundtable at ASSA, 2020
17. Southeastern Micro Labor Workshop, 2020
18. Southern Economics Association Conference, 2020
19. Economic Applications of Quantile Regression 2.0 Conference, 2019
20. Econometric Society Summer Meetings, 2019
21. Southern Economics Association Conference, 2019
22. Conference on Identification in Econometrics at Vanderbilt University, 2018
23. Southern Economics Association Conference, 2018
24. Triangle Econometrics Conference, 2018
25. Midwest Econometrics Group Conference, 2017
26. Southern Economics Association Conference, 2017
27. Midwest Econometrics Group Conference, 2016
28. 9th International Conference of the ERCIM WG on Computational and Methodological Statistics, 2016
29. Econometric Society World Congress, 2015
30. Midwest Econometrics Group Conference, 2015

Referee:

1. American Economic Journal: Applied Economics (2)



2. American Economic Review
3. American Journal of Epidemiology
4. American Political Science Review
5. Annals of Applied Statistics (2)
6. Annals of Statistics
7. Applied Economics Letters (2)
8. Biometrics
9. Canadian Journal of Economics
10. Econometrica
11. Econometrics Journal
12. Econometric Reviews (3)
13. Econometrics and Statistics
14. Economics Letters (2)
15. Empirical Economics (4)
16. European Economic Review
17. European Review of Agricultural Economics
18. Evaluation Review
19. Health Economics
20. Health Services and Outcomes Research Methodology
21. Industrial Relations
22. Journal of the American Statistical Association
23. Journal of Applied Econometrics (10)
24. Journal of the Association of Environmental and Resource Economists
25. Journal of Business and Economic Statistics (14)
26. Journal of Causal Inference
27. Journal of Econometric Methods (3)
28. Journal of Econometrics (11)
29. Journal of Economic Behavior and Organization
30. Journal of Policy Analysis and Management
31. Labour Economics
32. Nature Human Behavior
33. Oxford Bulletin of Economics and Statistics
34. Proceedings of the National Academy of Sciences
35. Research in Labor Economics
36. Quarterly Journal of Economics (2)
37. Quantitative Economics
38. Review of Economics and Statistics (5)
39. Review of Economic Studies

40. Socio-Economic Review
41. Southern Economic Journal
42. Statistics and Probability Letters

Service:

1. UGA Seminar Co-organizer, 2024-2025
2. International Association of Applied Econometrics Scientific Committee (submission reviewer), 2024
3. Ad Hoc Godfrey Committee, 2023-2024
4. National Science Foundation Grant Proposal Reviewer, 2023
5. Terry College Promotion and Tenure for Lecturers Committee, 2023
6. Association for Public Policy Analysis and Management (APPAM) submission reviewer for the Methods and Tools of Analysis program, 2023
7. Co-organizer Georgia Econometrics Workshop, 2022 & 2023
8. UGA Economics Hiring Committee Chair, 2022-2023
9. UGA Economics Department Graduate Program Committee, 2022-
10. Research proposal reviewer for the Israel Science Foundation, 2022
11. Co-founder UGA Econometrics Reading Group, 2021-
12. University of Georgia Economics Hiring Committee, 2020-2021
13. Founded Temple Econometrics Reading Group, 2016-2019
14. Temple Economics Department Undergraduate Affairs Committee, 2016-2019
15. Temple Economics Department Seminar Committee, 2016-2019
16. Temple Economics Department Hiring Committee, 2018
17. Faculty Supervisor for Center for Regional Economics at Temple (Consulting project for Comcast, 4 students, \$30,000 budget), 2017
18. Temple College of Liberal Arts Technology Committee, 2016-2017