

William C. Horrace

Maxwell School, Syracuse University
311 Maxwell Hall, Syracuse, NY 13244
315-443-9061, whorrace@syr.edu

Fields of Interest

Econometrics, production & efficiency analysis, peer effects & strategic interactions, crime & policing

Education

Ph.D. Economics, Michigan State University, 1996

Faculty Appointments

Distinguished Professor of Economics, Syracuse University, 2016-present
Director of Masters Studies, Economics Department, Syracuse University, 2020-present
Director of Doctoral Studies, Economics Department, Syracuse University, 2017-2020
Director of Undergraduate Studies, Economics Department, Syracuse University, 2016
Department Chair, Economics Department, Syracuse University, 2013-2016
Melvin A. Eggers Economics Faculty Scholar, Maxwell School, Syracuse University, 2011-2016
Professor of Economics, Syracuse University, 2009-2016
Visiting Faculty Scholar, Department of Agricultural Economics, University of California - Berkeley, 2007
Associate Professor of Economics, Syracuse University, 2002-2009
Assistant & Associate Professor of Economics, University of Arizona, 1996-2002

Research Appointments

Research Affiliate & Senior Research Associate, Center for Policy Research, Syracuse University, 2002-present
[W.E.B. Du Bois Fellow](#), National Institutes of Justice, Department of Justice, Washington DC, 2016
Visiting Scholar, Board of Governors of the Federal Reserve System, Washington DC, 2015-2017
Research Co-Director, Upstate Health Research Network, Syracuse University, 2009-2013
Research Economist, National Bureau of Economic Research, Cambridge, MA, 2000-2008

Editorial Appointments

Associate Editor, *Journal of Business and Economic Statistics*, 2016-2022
Associate Editor, *Journal of Productivity Analysis*, 2009-2022
Associate Editor, *Southern Economic Journal*, 2001-2006

Teaching

Econometrics, probability & statistics, mathematical economics, forecasting, production & efficiency analysis

Sponsored Projects

Police Officer Learning, Mentoring and Bias in Traffic Stops, NIJ, [2016-R2-CX-0041](#) (2016-2019), \$279,810
Upstate Health Research Network, Fair Health Incorporated (2009-2013) \$4,000,000
Occupational Risk & Rights-Based Fisheries Policy, NSF, [SES-0719105](#) (2007-2008), \$108,000
Spatial Measures of Technical Efficiency, NOAA, NA04NMF4370372 (2006-2008), \$32,045
The Economic Impact of the New Deal, NSF, [SES-0214395](#) (2002-2004), \$386,827
The Impact of the New Deal on Local Economic Development, NSF, [SES-0080324](#) (2000-2002), \$283,187
Research in Econometric Theory, NSF Mentoring Supplement to [SES-9222728](#) (1995), \$11,968

Distinctions & Awards

Fellow of New York Camp Econometrics, 2015
Outstanding University of Arizona Faculty Award, Mortar Board Society, 1999
Faculty Appreciation Award, University of Arizona, Eller School of Business Student Council, 1998, 1999
Ford Foundation Diversity Fellow - Dissertation Award, 1995-1996
King-Chavez-Parks Doctoral Fellow, Michigan State University, 1993-1996
Committee on Institutional Cooperation (Big 10 Alliance) Fellow, Michigan State University, 1991-1996
American Economic Association Minority Scholar & Michigan State University Doctoral Fellow, 1991

Peer Reviewed Journal Articles

1. Cai J, Horrace WC, Lee Y. Identification and estimation of panel semiparametric conditional heteroskedastic frontiers with Kotlarski's lemma. *Econometric Reviews*, accepted.
2. Cai J, Horrace WC, Parmeter CF. [Penalized Sieve Estimation of Zero-Inefficiency Stochastic Frontiers](#). *Journal of Applied Econometrics*, forthcoming.
3. Horrace WC, Parmeter CF, Wright, IA. [On asymmetry and quantile estimation of the stochastic frontier model](#). *Journal of Productivity Analysis*, forthcoming.
4. Horrace WC, Jung H, Yang Y. [The conditional mode in parametric stochastic models](#). *Journal of Productivity Analysis*, 60(2023): 333–343.
5. Horrace WC, Jung H, Lee Y. [LASSO for stochastic frontier models with many efficient firms](#). *Journal of Business and Economic Statistics*, 41(2023): 1132-1142.
6. Horrace WC, Wang Y. [Nonparametric tests of tail behavior in stochastic frontier models](#). *Journal of Applied Econometrics*, 37(2022): 537-62.
7. Horrace WC, Jung H, Sanders S. [Network competition and team chemistry in the NBA](#). *Journal of Business and Economic Statistics*, 40(2022): 35-49.
8. Horrace WC, Rothbart MW, Yang Y. [Technical efficiency of public middle schools in New York City](#). *Economics of Education Review*, 86(2022): 102216.
9. Agar J, Horrace, WC, Parmeter CF. [Fleet capacity dynamics in the Gulf of Mexico red snapper fishery: 12 years after the IFQ](#). *Environmental & Resource Economics*, 82(2022):483-506.
10. Cai J, Horrace WC, Parmeter CF. [Deconvolution with Laplace errors and unknown variance](#). *Journal of Productivity Analysis*, 56(2021): 103-113.
11. Cai J, Feng Q, Horrace WC, Wu GL. [Wrong skewness and finite sample correction in the normal-half normal stochastic frontier model](#). *Empirical Economics*, 60(2021): 2837–2866.
12. Horrace WC, Wright IA. [Stationary points for stochastic frontier models](#). *Journal of Business and Economic Statistics*, 38(2020): 516-526.
13. Friedson AI, Horrace WC, Marier A. [So many hospitals, so little information. How hospital value-based purchasing is a game of chance](#). *Southern Economic Journal*, 86(2019): 773-799.
14. Horrace WC, Parmeter CF. [A Laplace stochastic frontier model](#). *Econometric Reviews*, 37(2018): 260-280.
15. Horrace WC, Jung H. [Stochastic frontier models with network selectivity](#). *Journal of Productivity Analysis*, 50 (2018): 101-116.
16. Horrace WC, Parmeter CF. [Accounting for multiplicity in inference on economics journal rankings](#). *Southern Economic Journal*, 84(2017): 337-347.
17. Horrace WC, Rohlin SM. [How dark is dark? Bright lights, big city, racial profiling](#). *Review of Economics and Statistics*, 98(2016): 226-232.
18. Horrace WC, Liu X, Patacchini E. [Endogenous network production functions with selectivity](#). *Journal of Econometrics*, 190(2016): 222-232.
19. Horrace WC, Huang R, Perloff JM. [Effects of increased variety on demand, pricing, and welfare](#). *Research in Economics*, 70(2016): 569-587.
20. Horrace WC. [Moments of the truncated normal distribution](#). *Journal of Productivity Analysis*, 43(2015): 133-138.
21. Horrace WC, Richards-Shubik S, Wright IA. [Expected efficiency ranks from parametric stochastic frontier models](#). *Empirical Economics*, 48(2015): 829-848.
22. Hicks RL, Horrace WC, Schnier KE. [Strategic substitutes or complements? The game of where to fish](#). *Journal of Econometrics*, 168(2012): 70-80.
23. Feng Q, Horrace WC. [Alternative technical efficiency measures: skew, bias and scale](#). *Journal of Applied Econometrics*, 27(2012): 253-268.

24. Barbe P, Horrace WC. [A critical reanalysis of Maryland State Police searches](#). *The American Statistician*, 66(2012): 1-7.
25. Horrace WC, Richards-Shubik S. [A Monte Carlo study of ranked efficiency estimates from frontier models](#). *Journal of Productivity Analysis*, 38(2012): 155-165.
26. Feng Q, Horrace WC. [Estimating technical efficiency in micro panels](#). *Economics Letters*, 117(2012): 730-733.
27. Goucher J, Horrace WC. [The value of life: real risks and safety-related productivity in the Himalaya](#). *Labour Economics*, 19(2012): 27-32.
28. Fishback PV, Flores-Lagunes A, Horrace WC, Kantor SE, Treber J. [The influence of the Home Owners' Loan Corporation on housing markets during the 1930's](#). *Review of Financial Studies*, 24(2011): 1782-1813.
29. Horrace WC, Parmeter CF. [Semiparametric deconvolution with unknown error variance](#). *Journal of Productivity Analysis*, 35(2011): 129-141.
30. Horrace WC, Schnier KE. [Fixed-effect estimation of highly-mobile production technologies](#). *American Journal of Agricultural Economics*, 92(2010): 1432-1445.
31. Felthoven RG, Horrace WC, Schnier KE. [Estimating heterogeneous capacity and capacity utilization in a multi-species fishery](#). *Journal of Productivity Analysis*, 32(2009): 173-189.
32. Ural BP, Horrace WC, Jung JH. [Inter-industry gender wage gaps by knowledge intensity: discrimination and technology in Korea](#). *Applied Economics*, 41 (2009): 1437-1452.
33. Horrace WC, Marchand JT, Smeeding TM. [Ranking inequality: applications of multivariate subset selection](#). *Journal of Economic Inequality*, 6(2008): 5-32.
34. Flores-Lagunes A, Horrace WC, Schnier KE. [Identifying technically efficient fishing vessels: a non-empty, minimal subset approach](#). *Journal of Applied Econometrics*, 22(2007): 729-745.
35. Feng Q, Horrace WC. [Fixed-effect estimation of technical efficiency with time-invariant dummies](#). *Economics Letters*, 95(2007): 247-252.
36. Horrace WC, Oaxaca RL. [Results on the bias and inconsistency of ordinary least squares for the linear probability model](#). *Economics Letters*, 90(2006): 321-327.
37. Fishback PV, Horrace WC, Kantor S. [The impact of New Deal expenditures on mobility during the Great Depression](#). *Explorations in Economic History*, 43(2006): 179-222.
38. Horrace WC. [Selection procedures for economics](#). *Applied Economics Quarterly*, 52(2006): 357-374.
39. Horrace WC. [On ranking and selection from independent truncated normal distributions](#). *Journal of Econometrics*, 126(2005): 335-354.
40. Horrace WC. [Some results on the multivariate truncated normal distribution](#). *Journal of Multivariate Analysis*, 94(2005): 209-221.
41. Horrace WC. [On the ranking uncertainty of labor market wage gaps](#). *Journal of Population Economics*, 18(2005): 181-187.
42. Fishback PV, Horrace WC, Kantor S. [Did New Deal grant programs stimulate local economies? A study of federal grants and retail sales during the Great Depression](#). *Journal of Economic History*, 65(2005): 36-71. Reprinted in *The Seminal Works of the Great Depression*, Vol. III, (RE Parker, ed.). Edward Elgar Publishing, Northampton, MA, (2011).
43. Shaw JW, Horrace WC, Vogel RJ. [The determinants of life expectancy: an analysis of the OECD health data](#). *Southern Economic Journal*, 71(2005): 768-783. Reprinted (2014) in the *SEJ Virtual Issue of Articles by Nobel Prize Winning Authors and Most Cited Articles*, 2003-2013.
44. Goode MJ, Horrace WC, Sredl MJ, Howland JM. [Habitat destruction by collectors associated with decreased abundance of rock-dwelling lizards](#). *Biological Conservation*, 125(2005): 47-54.
45. Druska V, Horrace WC. [Generalized moments estimation for spatial panel data: Indonesian rice farming](#). *American Journal of Agricultural Economics*, 86(2004): 185-198.

46. Horrace WC, Keane TP. [Ranking and selection of motor carrier safety performance by commodity](#). *Accident Analysis & Prevention*, 36(2004): 953-960.
47. Fraser IM, Horrace WC. [Technical efficiency of Australian wool production: point and confidence interval estimates](#). *Journal of Productivity Analysis*, 20(2003): 169-190.
48. Horrace WC, Oaxaca RL. [Inter-industry wage differentials and the gender wage gap: an identification problem](#). *Industrial & Labor Relations Review*, 54(2001): 611-618.
49. Horrace WC, Schmidt P. [Multiple comparisons with the best, with economic applications](#). *Journal of Applied Econometrics*, 15(2000): 1-26.
50. Horrace WC. [Tables of percentage points of the \$k\$ -variate normal distribution for large values of \$k\$](#) . *Communications in Statistics: Simulation & Computation*, 27(1998): 823-831.
51. Horrace WC. [Submodel estimation of a structural vector error correction model under cointegration](#). *Economics Letters*, 59(1998): 23-29.
52. Horrace WC, Schmidt P, Witte AD. [Sampling errors and confidence intervals for order statistics: implementing the Family Support Act and welfare reform](#). *Journal of Economic & Social Measurement*, 24(1998): 181-207.
53. Horrace WC, Schmidt P. [Confidence statements for efficiency estimates from stochastic frontier models](#). *Journal of Productivity Analysis*, 7(1996): 257-282.

Books, Reviews, Chapters, Discussions & Entries

54. Horrace WC. [Review of "Shaping Jazz: Cities, Labels, and the Global Emergence of an Art Form"](#) by Damon J. Phillips, *Journal of Economic Literature*, 52 (2014): 869-870.
55. Horrace WC, Schnier KE. [Efficiency selection procedures for capacity utilization estimation](#). In *Festschrift in Honor of Peter Schmidt: Econometric Methods and Applications*. RC Sickles and WC Horrace (eds.) Springer Science & Business Media, New York, NY, (2014): 359-369.
56. Horrace WC. [Stochastic Frontier Analysis](#), in *International Encyclopedia of Social Sciences*, 2nd Edition, Vol. 8, WA Darity, (ed.). Thomson/Gale, Farmington Hills, MI, (2008): 148-149.
57. Horrace WC. [Identification Problem](#). In *Encyclopedia of Social Science Research Methods*, Vol. II, M Lewis-Beck, A Bryman, & F Liao (eds.) Sage Publications, Thousand Oaks, CA, (2004): 474-475.
58. Horrace WC, Hernandez C. [The characteristic function from a family of truncated normal distributions](#). Problem 01.5.2, *Econometric Theory*, 17(2001): 1026.
59. Billings RB, Horrace WC, Agthe DE. [State space vs. econometric techniques for forecasting monthly urban water demand](#) (closure). *Journal of Water Resources Planning & Management*, 125(1999): 241-242.

Conference Presentations

North American Productivity Workshop: Rice (2010), NYU (2008, 2006), Toronto (2004), Miami (2021)
 Southern Economic Association Meetings: New Orleans (2015, 2004), Baltimore (1998)
 Conference in Honor of Ron Oaxaca, University of Arizona (2015)
 American Economic Association Meetings: Boston (2015, 2000), Philadelphia (2014, 2005)
 International Association of Applied Econometrics, London (2014)
 New York Camp Econometrics: Watkins Glen (2014), Ithaca (2008), Saratoga Springs (2006)
 Conference in Honor of Peter Schmidt, Rice University (2011)
 European Workshop on Efficiency & Productivity: Verona (2011), Copenhagen (1999, 1997), Belgium (1995)
 Midwest Econometrics Group Meetings: Purdue (2009), Washington University (1995)
 Current Developments in Productivity & Efficiency Measurement. University of Georgia (2002)
 Econometric Society Meetings: Buenos Aires (2001), Montreal (1998)
 International Conference on Multiple Comparison Procedures, Berlin (2000)
 National Bureau of Economic Research, Summer Institute, Cambridge (1999)

Short Courses

Stochastic Frontier Analysis, University of Technology, Kingston, Jamaica (2015).

Seminar Presentations

Albany, Arizona, Arizona State, Arkansas, Austin, Berkeley, Binghamton, Clemson, Connecticut, Cornell, Denver, Drexel, Federal Reserve Board, Florida, Florida State, Georgetown, Georgia, Guelph, Hamilton, Illinois, Indiana, Lehigh, Miami, Michigan State, Missouri, MIT, North Carolina, North Carolina State, Northeastern, Princeton, Rice, RIT, RPI, Rutgers, Santa Barbara, Southern Methodist, Syracuse, Texas A&M, Union, Washington State, William & Mary, Wayne State.

Keynote Addresses, Government Briefings & Testimony

Childcare Market Rate Study. Division of Social Services, Dover, DE. 2009, 2011, 2013, 2015, 2018, 2021
Syracuse University Project Advance. NYC Lubin House & Main Campus, Syracuse University. 2014
Police-Citizen Encounters in Syracuse, New York. City of Syracuse, Common Council. 2006, 2010
Faculty Convocation Address. Syracuse University, College of Arts & Sciences Convocation. 2005
Motor Carrier Safety Analysis. Federal Motor Carrier Safety Administration, Washington, DC. 2003

PhD Advisees

Jun Cai, Hyunseok Jung, Chong Li, Ian Wright, Yi Yang, Yichi Zhang.

Thesis Committees

Reshad Ahsan, Nayef Al-Shammari, Ran An, Elizabeth Ashby, Yusuf Bagir, Douglas Bergman, Francisco Bido, Alexander Bogin, Yong Chen, Chris Cunningham, Ana Dammert, Ying Deng, Carlos Diaz, Daron Djerdjian, Viliam Druska, Alissa Dubnicki, LaRhonda Ealey, Qu Feng, Andrew Friedson, Wancong Fu, Pallab Ghosh, Jeremy Goucher, Nadia Greenhalgh-Stanley, Andrew Grodner, Ratidanai Hoonsawat, Boqian Jiang, Ryan Johnson, Kul Kapri, Anil Kumar, Jae Yoon Lee, Jing Li, Xiaoxue Li, Judith Liu, Liqun Liu, Shimeng Liu, Xuepeng Liu, Xiaoli Liang, Joseph Marchand, Allison Marier, Cristian Meghea, Nuno Mota, Mukta Mukherjee, Sang Gon Na, Tim Noparuma, Kontee Nuchsuwan, Marcel Nzeukou, Jae Woo Oh, John Park, Jonathan Presler, Bin Peng, Willie Reddic, Judith Ricks, Cameron Rookley, Kenneth Roskelley, Amanda Ross, Jonathan Schwabish, Shulin Shen, Jeong Eun Shin, Claudia Smith, Alexander Sugiyama, Supriya Sarnikar, Ryan Sullivan, Sally Turbyville, Beyza Ural, Joaquin Urrego, Mallory Vachon, Fa Wang, Tingting Xiong, Jerry Yang, Yanmin Yang, Yin-Fang Yen, Xirui Zhang.

Service to Profession

[Inaugural Member, Society of Senior Ford Fellows](#), 2021
[Principal Founder, International Society for Efficiency And Productivity Analysis \(ISEAPA\)](#), 2019
Scientific Committee Member, North American Productivity Workshop, University of Miami, 2018, 2020
Discussant, European Workshop on Efficiency & Productivity Analysis, Loughborough University, 2017, 2019
Organizer, The Economics of Crime and Policing Symposium, Syracuse University, 2017
Session Chair, New York Camp Econometrics, 2007-2021
Co-organizer, Conference in Honor of Peter Schmidt, Rice University, 2011
Session Chair, European Workshop on Efficiency & Productivity Analysis, University of Verona, 2011
Plenary Session Chair, North American Productivity Workshop, Rice University, 2010
Session Chair, Midwest Econometrics Group Meetings, Purdue, 2009
Session Co-Organizer, ASSA Meetings, Philadelphia, PA, 2005
Session Chair, North American Productivity Workshop, Toronto, Canada, 2004
Session Chair, Latin American Econometric Society Meetings, Buenos Aires, Argentina, 2001

College Service

Syracuse University, Maxwell School, Curriculum Committee, 2017-2020
Syracuse University, Maxwell School, Dean Search Committee, 2010-2011 & 2015-2016
Syracuse University, Maxwell School, Volcker Chair Search Committee, 2011-2013
Syracuse University, College of Arts and Sciences, Ad Hoc Promotion Advisory Committee, 2007, 2012
Syracuse University, Maxwell School, D.P. Moynihan Chair Search Committee, 2008-2009

Syracuse University College of Arts and Sciences, Promotion & Tenure Committee, 2004-2006
Syracuse University College of Arts and Sciences, Joint Committee on Statistics, 2003

University Service

Syracuse University, Faculty Senate, 2021-2022
Syracuse University, Provost's Advisory Committee on Promotion and Tenure, 2020-2022
Syracuse University, Academic Strategic Plan Oversight Committee, 2015-2016
Syracuse University, Faculty Advisory Committee on a Proposed College of Medicine, 2015
Syracuse University, Vice Chancellor's Task Force on Faculty Salary Disparities, 2010-2013
Syracuse University, Hearing Committee on Academic Freedom, Tenure, and Professional Ethics, 2006

Outreach

Member, [Criminal Justice Expert Panel](#), Texas A&M and NYU, 2021-present
Police Racial Profiling. American Civil Liberties Union, Syracuse NY, 2017
Player Peer-Effects, Minnesota Wild, 2015-2016
Patient Database Matching Algorithm Sample Design, Zirmed Incorporated, 2012-2014
Child Care Market Studies, States of Delaware, Massachusetts, and Florida, 1995-2023
Board Member, Central New York Jazz Arts Foundation, 2011-2013
Police-Citizen Encounter Studies in the City of Syracuse, Syracuse Common Council, 2005, 2010
Caseload and Personnel Forecasting, Administrative Offices of the United States Courts, 2008-2009
[Greater Than the Sum: Systems Thinking in Tobacco Control](#), Monograph 18, National Cancer Institute, 2007
Syracuse University, Workshop on Minority Graduate Student Retention, 2006
Motor Carrier Safety Analysis, Federal Motor Carrier Safety Administration, 2000-2004
Freshman Forum Leader, College of Arts & Sciences, Syracuse University, 2003
Faculty Mentor, Blue Chip Leadership Program, University of Arizona, 2001
Guest Lecturer, Leadership Education and Development Program, University of Arizona, 1998-2001
Faculty Advisor, Flinn Scholarship Program, University of Arizona, 1998
Instructor, Executive MBA Program, University of Arizona, 1997-2001
Guest Lecturer, AEA Summer Minority Program, Stanford University, 1995