

February 2022

DAVID BROWNSTONE, Professor Emeritus of Economics

Department of Economics

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Education

A.B. University of California, Berkeley (1975) Applied Mathematics

M.A. University of California, Berkeley (1977) Statistics

Ph.D. University of California, Berkeley (1980) Economics

Academic Positions

1999-2018 Professor of Economics, School of Social Sciences, University of California, Irvine

1992-99 Associate Professor of Economics, School of Social Sciences, University of California, Irvine

1984-92 Assistant Professor of Economics, School of Social Sciences, University of California, Irvine

1982-89 Senior Research Fellow, The Industrial Institute for Economic and Social Research, Stockholm, Sweden

1982-84 Assistant Professor, Department of Economics, Stockholm School of Economics, Stockholm, Sweden

1980-81 Visiting Assistant Professor, Department of Economics, Stockholm School of Economics, Stockholm, Sweden (Fall and Summer)

1979-82 Assistant Professor, Department of Economics, Princeton University, Princeton, New Jersey

Publications (Working paper versions in Adobe acrobat files are available if underlined, * denotes graduate student co-author)

(P42) “Plug-in Electric Vehicle Diffusion in California: Role of exposure to new technology at home and work” (with D. Chakraborty*, D.S. Bunch, B. Xu, and G. Tal), *Transportation Research A* 156, 133-151, 2022. <https://doi.org/10.1016/j.tra.2021.12.005>

(P41) “The Impacts of Bus Use on COVID-19 Dispersion” (with H. Bernal*), in: Loukaitou, Sideris, A., Bayen, A.M., Circella, G., and Jayakrishnan, R. (Eds.) *Pandemic in the Metropolis: Transportation Impacts and Recovery*, Char, Switzerland: Springer Nature, forthcoming 2022.

(P40) “Vehicle choice and utilization: Improving estimation with partially observed choices and hybrid pairs” (with A. Lloro*), *Journal of Choice Modeling* 28, 137-152, 2018. <https://doi.org/10.1016/j.jocm.2018.05.005>

(P39) “[Aggregation biases in discrete choice models](#)” (with T. Wong* and D. Bunch), *Journal of Choice Modelling* 31 (2019) 210–221 <http://dx.doi.org/10.1016/j.jocm.2018.02.001>

(P38) “A model for broad choice data” (with P. Li*), *Journal of Choice Modelling* 27, 19-36, 2018 <https://doi.org/10.1016/j.jocm.2017.09.001>

- (P37) [“A Vehicle Ownership and Utilization Choice Model With Endogenous Residential Density”](#) (with H. Fang*), Journal of Transportation and Land Use 7(2), 135-151, 2014.
- (P36) [“The Impact of Residential Density on Vehicle Usage and Fuel Consumption”](#) (with J. Kim*), Energy Economics 40, 196-206, 2013.
- (P35) [“Methodological Developments in Activity-Travel Behavior Analysis,”](#) in R. M. Pendayala, C. R. Bhat (Eds.), Travel Behavior Research in an Evolving World. (pp. 249-260). International Association for Travel Behavior Research. ISBN 978-1-105-47378. 2012.
- (P34) [“The Impact of Residential Density on Vehicle Usage and Energy Consumption”](#) (with T. Golob), Journal of Urban Economics, 65, pp. 91-98, 2009.
- (P33) “Key Relationships Between the Built Environment and VMT.” Paper commissioned by the National Research Council for Transportation Research Board Special Report 298: Driving and the Built Environment, 2008. Accessible at: <http://onlinepubs.trb.org/Onlinepubs/sr/sr298appendixb.pdf>.
- (P32) [“Risk, uncertainty and discrete choice models”](#) (with A. de Palma, M. Ben-Akiva, C. Holt, T. Magnac, D. McFadden, P. Moffatt, N. Picard, K. Train, P. Wakker and J. Walker), Marketing Letters, 19, pp. 269-285, 2008.
- (P31) [“Recent Progress on Endogeneity in Choice Modeling”](#) (with J Louviere, K Train, M Ben-Akiva, C Bhat, T A Cameron, R . Carson, J.R. DeShazo, D Fiebig, W Greene, D Hensher, and D Waldman), Marketing Letters, 16 (3-4), 2005.
- (P30) [“Estimating Commuters’ “Value of Time” with Noisy Data: a Multiple Imputation Approach”](#) (with S. Steimetz*), Transportation Research B, 39, 865-889, 2005.
- (P29) [“Valuing Time and Reliability: Assessing the Evidence from Road Pricing Demonstrations”](#) (with K. Small), Transportation Research A, 39, 279-293, 2005. French version published as: “Expériences de tarification routière en Californie: enseignements pour l’évaluation du temps et de la fiabilité,” in André de Palma and Emile Quinet, eds., *La Tarification des Transports: Enjeux et défis (Transport Pricing: Stakes and Challenges)*, Paris: Economica, 2005.
- (P28) [“Drivers’ Willingness-to-Pay to Reduce Travel Time: Evidence from the San Diego I-15 Congestion Pricing Project.”](#) (with C. Kazimi*, A. Ghosh*, T.F. Golob, and D. van Amelsfort), Transportation Research A, 37, pp. 373-387, 2003.
- (P27) [“Hybrid Choice Models: Progress and Challenges,”](#) (with M. Ben-Akiva, D. McFadden, K. Train, J. Walker, C. Bhat, M. Bierlaire, D. Bolduc, A. Boersch-Supan, D. Bunch, A. Daly, A. de Palma, D. Gopinath, A. Karlstrom, M. A. Munizaga), Marketing Letters, 13:3, pp. 163-175, 2002.
- (P26) [“The Bootstrap and Multiple Imputations: Harnessing Increased Computing Power for Improved Statistical Tests.”](#) (with R. Valletta), Journal of Economic Perspectives, 15(4), pp. 129-141, Fall 2001.
- (P25) [“Discrete Choice Modeling for Transportation.”](#) in D. Hensher (ed.), Travel Behaviour Research: The Leading Edge. Amsterdam: Pergamon, pp. 97-124, 2001.
- (P24) [“Modeling Non-ignorable Attrition and Measurement Error in Panel Surveys: An Application to Travel Demand Modeling.”](#) (with C. Kazimi* and T.F. Golob), in Groves,

- R.M., D. Dillman, J.L. Eltinge and R.J.A. Little (eds.), Survey Nonresponse. New York: Wiley, pp. 373-388, 2001.
- (P23) "[Joint Mixed Logit Models of Stated and Revealed references for Alternative-fuel Vehicles.](#)" (with D. S. Bunch and K. Train), Transportation Research B, 34, 315-338, 2000.
- (P22) "Bootstrap Confidence Bands For Shrinkage Estimators." (with Camilla Kazimi*), Journal of Econometrics, 90, pp. 99-127, 1999.
- (P21) "Forecasting New Product Penetration With Flexible Substitution Patterns." (with K. Train) Journal of Econometrics, 89, pp. 109-129, 1998.
- (P20) "Multiple Imputation Methodology For Missing Data, Non-Random Response, And Panel Attrition." In T. Gärling, T. Laitila and K. Westin, eds., Theoretical Foundations of Travel Choice Modeling. Pp. 421-450, Elsevier, 1998.
- (P19) "A Vehicle Use Forecasting Model Based on Revealed and Stated Vehicle Type Choice and Utilisation Data," (with T. Golob and D. Bunch), Journal of Transport Economics and Policy, 31:1, pp. 69-92, 1997.
- (P18) "Multiply-Imputed Sampling Weights for Consistent Inference with Panel Attrition," (with Xuehao Chu*) in Golob, T.F., R. Kitamura and L. Long, eds. Panels for Transportation Planning: Methods and Applications, pp. 259-276, Boston: Kluwer Academic Publishers, 1997.
- (P17) "A Demand Forecasting System for Clean-Fuel Vehicles," (with D. Bunch and T. Golob), in Organization for Economic Co-operation and Development (OECD) Towards Clean Transportation: Fuel Efficient and Clean Motor Vehicles, Publications Service, OECD, Paris, France, 1996, pp 609-624.
- (P16) "A Transactions Choice Model For Forecasting Demand For Alternative-Fuel Vehicles." (with D.S. Bunch, T.F. Golob and W. Ren*) in S. McMullen (ed.) Research in Transportation Economics, Volume 4, pp 87-129, JAI Press Inc., 1996.
- (P15) "A Dynamic Forecasting System For Vehicle Markets With Clean-Fuel Vehicles." (with D.S. Bunch, T.F. Golob) in D.A. Hensher, J. King and T.H. Oum, eds., World Transport Research: Proceedings of 7th World Conference on Transport Research, 1: 189-203. Pergamon, Oxford, 1996.
- (P14) "Commercial Fleet Demand for Alternative-fuel Vehicles in California," (with T. Golob, J. Torous, S. Crane, D. Bunch, and M. Bradley), Transportation Research A, 31:3, pp. 219-233, 1997.
- (P13) "Modeling Earnings Measurement Error: A Multiple Imputations Approach," (with R. Valletta), The Review of Economics and Statistics, 78:4, pp. 705-717, 1996.
- (P12) "Transportation Energy Use," (with Charles Lave) in R. Gilbert (ed.) The Environment of Oil, Kluwer Academic Publishers, Boston, 1993, pp. 11-42.
- (P11) "The Effectiveness of Ridesharing Incentives: Discrete-choice Models of Commuting in Southern California," (with Thomas Golob), Regional Science and Urban Economics, Vol. 22, 1992, pp. 5-24.

- (P10) "Bootstrapping Admissible Linear Model Selection Procedures," in R. LePage and L. Billard (eds.), *Exploring The Limits of Bootstrap*, Wiley, New York, 1992, pp. 327-344.
- (P9) "Zoning, Returns to Scale, and the Value of Undeveloped Land," (with A. DeVany), *Review of Economics and Statistics*, Vol 73, 1991, pp. 699-704.
- (P8) "The Demand for Housing in Sweden: Equilibrium Choice of Tenure and Type of Dwelling," (with P. Englund), *Journal of Urban Economics*, Vol. 29, 1991, pp. 267-281.
- (P7) "Bootstrapping Improved Estimators for Linear Regression Models," *Journal of Econometrics*, Vol. 44, 1990, pp. 171-187.
- (P6) "Efficient Estimation of Nested Logit Models" (with K. Small), *Journal of Business and Economic Statistics*, Vol. 7, 1989, pp. 67-74.
- (P5) "Tax Reform and Housing Demand: The Distribution of Welfare Gains and Losses" (with P. Englund and M. Persson), *European Economic Review*, Vol. 32, 1988, pp. 819-840.
- (P4) "A Microsimulation Model of the Swedish Housing Market" (with P. Englund and M. Persson), *Journal of Urban Economics*, Vol. 23, 1988, pp. 179-198.
- (P3) "Effects of Tax Reform on the Demand for Owner-Occupied Housing: A Microsimulation Approach" (with P. Englund and M. Persson), *Scandinavian Journal of Economics*, Vol. 87 (4), 1985, pp. 625-646.
- (P2) "Microeconometrics," in G. Eliasson (ed.), *Microeconometrics: IUI Yearbook 1982-1983*, Industrial Institute for Economic and Social Research, Stockholm, 1983, pp. 81-90.
- (P1) "Econometric Models of Choice and Utilization of Energy-Using Durables," in J. Hausman (ed.), *Choice and Utilization of Energy-Using Durables*, Electric Power Research Institute, Palo Alto, California, 1980, Chapter 5.

Reports

- Hansen, M., D. Brownstone, et. al., 2017. *Rail and the California Economy*. Institute of Transportation Studies, UC Berkeley.
http://www.dot.ca.gov/californiarail/docs/Rail_CAEconomy_Book_Report_V28_LowResPages.pdf .
- S.Y. Kong, A. Mahmassani, D. Brownstone, and M. McBride, "Experimental Studies for Traffic Incident Management", State of California Department of Transportation, July 15, 2016,
http://dot.ca.gov/research/researchreports/reports/2016/CA16-2804_FinalReport.pdf
- Bunch, David S., David Brownstone. (University of California, Davis and University of California, Irvine), 2016. [Energy Commission Models for Analyzing and Projecting Household Transportation Energy Demand](#): Evaluation, Model Improvement Options, and Recommendations. California Energy Commission. Publication Number: CEC-200-2016-009.
- Brownstone, D., Bunch, D. (2013). *A Household New Vehicle Purchase Model to Support Analysis of the Impact of CAFÉ Standards*. Brookings Institution.
- Brownstone, D., Madanat, S., Hansen, M. (2010). *Review of "Bay Area/California High-Speed Rail Ridership and Revenue Forecasting Study*. Research Report UCB-ITS-RR-2010-1
<https://www.ce.berkeley.edu/sites/default/files/news/77/UCB-ITS-RR-2010-1.pdf>

Recent Research Grants

- 9/21 – 9/22 UC Statewide Transportation Program, \$64,063
- 7/20 – 6/21 UC Statewide Transportation Program, \$7700
- 10/18 – 9/20 California Climate Smart Communities Consortium, \$22,200 (my share), Co-Principal Investigator with Steve Ritchie
- 8/18 - 3/20 California Energy Commission, \$156,483, Co-Principal Investigator with David Bunch
- 4/16 – 3/17 UCCONNECT (University of California Transportation Center), \$172,314, Co-Principal Investigator with Michael McBride
- 8/15 – 7/16 UCCONNECT (University of California Transportation Center), \$66,982
- 1/15 – 3/16 UCCONNECT (University of California Transportation Center), \$119,594, Co-Principal Investigator with Michael McBride
- 6/13 – 6/14 California Energy Commission (subcontract through UC Davis), \$33,750
- 1/12 – 6/15 UC Sustainable Transportation MRPI, \$162,575
- 10/11 – 7/13 Brookings Institution, \$40,000.
- 9/10 – 6/12 University of California Energy and Environment Institute, \$33,878.
- 1/09 – 8/10 U.C. Davis Institute of Transportation Studies (funded by State of California Air Resources Board), \$21,075. Subcontract form Principal Investigator David Bunch.
- 4/08 - 9/09 University of California Transportation Centers (funded by the U.S. Department of Transportation and the California State Department of Transportation), \$60,796.
- 5/07 - 3/08 University of California Transportation Centers (funded by the U.S. Department of Transportation and the California State Department of Transportation), Co-Principal Investigator with K Van Dender. \$12,414.
- 6/06 – 9/07 California Department of Transportation, Co-Principal Investigator with T. Golob and W. Recker. \$161,157.
- 10/05 – 9/08 U.S. National Science Foundation, Co-Principal Investigator with K. Kraemer et. al., \$550,000.
- 8/04 – 12/05 California Department of Transportation (PATH), Co-Principal Investigator with T. Golob and W. Recker. \$133,025.
- 8/01 - 7/02 University of California Transportation Centers (funded by the U.S. Department of Transportation and the California State Department of Transportation), Co-Principal Investigator with T. Golob. \$65,057.
- 8/98 – 7/99 University of California Transportation Centers (funded by the U.S. Department of Transportation and the California State Department of Transportation), Co-Principal Investigator with T. Golob. \$58,550.
- 2/96 - 11/97 PHS-NIH National Cancer Institute, Co-Principal Investigator with A.Lee-Feldstein, P. Feldstein, F. Meyskens, J. Butler, and T. Buchmueller. \$237,147.

7/96 - 6/97 University of California Energy Institute, Co-Principal Investigator with D. Bunch, T. Golob. \$25,000.

3/95 - 12/96 California Energy Commission and Southern California Edison Co., Co-Principal Investigator with D. Bunch, T. Golob. \$997,655.

Referee : *American Economic Review, Econometric Reviews, Econometrica, The Econometrics Journal, Empirical Economics, Energy Economics, International Economic Review, Journal of Applied Econometrics, Journal of Business and Economic Statistics, Journal of Choice Modeling, Journal of Econometrics, Journal of Urban Economics, Mathematical Social Science, The Rand Journal of Economics, Regional Science and Urban Economics, Research in Transportation Economics, Review of Economics and Statistics, Scandinavian Journal of Economics, Statistical Papers, Transportation Research (A, B, B, D, E), Transport Reviews, Transportation, Transportation Science, Advances in Econometrics, Journal of Regional Science, MacMillan Publishing Co., M.I.T. Press, National Science Foundation, North-Holland Publishing Co., Brooks/Cole Publishing Co., Pearson Publishing Company, University of Rhode Island Transportation Center, Social Science Research Council of Canada, U.C. Energy Research Groups, U.C. Transportation Centers, U.S. – Israel Binational Science Foundation, Research Grants Council of Hong Kong, Transportation Research Board.*

Editorial Advisory Board Member: *Transportation Research B, Economics of Transportation, Journal of Choice Modeling, Economics of Transportation*

Tenure reviews: Stanford University, UC Berkeley, USC, Cornell, University of Oklahoma, Dickerson College

Recent Seminar Presentations: (all Department of Economics, unless otherwise noted): Jinan University, Guangzhou, China (2019), University of Antwerp (2018), California State University, Long Beach (2017), International Applied Econometrics Association Meeting, Sapporo, Japan (2017), National University of Singapore (2017), New York University Abu Dhabi (2017), International Choice Modeling Conference, Cape Town, South Africa (2017), University of California, Santa Barbara (2016), University of California, Riverside (2015), International Association of Travel Behavior Modelers, Austin, Texas (2015), International Choice Modeling Conference, Windsor, England (2015), Department of Transportation, Danish Technical University (2014), ZEW, University of Mannheim (2014), U.S. Office of Controller of Currency (2013), University of California, San Diego (2013), International Choice Modeling Conference, Sydney, Australia (Plenary Speaker, 2013), University of Texas, Austin (Civil and Environmental Engineering, 2013), International Association of Travel Behavior Modelers, Toronto, Canada (2012), UC Davis Institute of Transportation Studies (2012), UC Berkeley Institute of Transportation Studies (2011), Econometric Society World Congress, Shanghai, China (2010), International Association of Travel Behavior Modelers, Jaipur, India (2009), U. C. Santa Barbara (2008), International Conference on Design and Public Policy: Markets for Congestion and Carbon Trading. University of Essex, UK (2007), International Association of Travel Behavior Modelers, Kyoto, Japan, (2006), University of Oregon (2005), Institute of Transportation Research, University of California, Irvine (2005), University of Southern California (2004), Free University of Amsterdam (2003), University of Indiana (2002),

University of Illinois, Champaign (2002), U. C. Berkeley (2001), RAND Statistics Seminar (2000), U.C. Davis (1999), Portland State University (1999), Claremont Graduate School (1998), Northwestern University (1998), U.S. Federal Reserve Board of Governors (1998), Oak Ridge National Laboratory (1998).

University and Campus Service:

UNIVERSITY WIDE:

UC Retirement System Advisory Board, 2016 - 2019 (Chair 2017-19)
Chair, UC Academic Senate Task Force on Investments and Retirement, 2016 -
Coordinating Committee on Graduate Affairs May 2002 – Sept. 2003.
Chair of External Advisory Committee, University of California Energy Institute, 2007-
2011.

CAMPUS :

Executive Committee, UCI Institute of Transportation Studies, 2006 - .
UCI Academic Planning Group, 2015 – 2016.
UCI Committee on Academic Personnel, 2011 – 2014 (Chair 2013-2014).
UCI Academic Senate Cabinet 2002-2003, 2013-2014, and 2015 - 2016.
UCI School of Social Science Ad Hoc Committee on Graduate Student Support, Winter
2005.
Chair, Graduate Council 2002-2003 and 2015 - 2016
Vice-Chair, Graduate Council 2001-2002
Graduate Council member and housing subcommittee 2003 - 2004
UCI Ad-Hoc Committee on Graduate and Family Housing, 2002 and 2003-2004
UCI Academic Senate Representative Assembly 1998 – 2000 and 2010 - 2012.
Policy Advisory Committee, UCI Institute of Transportation Studies, 1993-2002
Executive Committee, UCI Institute for Mathematical Behavioral Sciences, 1993-2002
Academic Senate Computer Policy Committee, 1994-1996
UCI Ad-Hoc Committee on Survey Research, 1992-1993
UCI Campus Committee on Statistics, 1992-1993

ECONOMICS DEPARTMENT:

Chair, July 2005 -. June 2010.
Econometrics Recruiting Chair, 2015 - 2016
Director of Graduate Studies, 1998-2004, 1993-1996, and 1987-1990.
Graduate Committee, 1984 – 2005.
Faculty Recruiting Co-Chair, 2003-2004 and 1994-1995.
Chair, Ad Hoc Departmental Committee to Define Recruiting Focus, Summer, 2002.
Numerous Departmental Personnel committees

Community Service:

Los Angeles Metro Office of Innovation Advisory Board, 2017 -.