UNIVERSITY OF CALIFORNIA - BERKELEY
DEPARTMENT OF AGRICULTURAL AND RESOURCE ECONOMICS

JAMES M. SEARS

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Doctoral Studies
University of California, Berkeley
PhD, Agricultural and Resource Economics, Expected completion May 2022
DISSERTATION: "Individual Behavior under Constraining Policies"

PRIMARY FIELD: Environmental and Resource Economics
SECONDARY FIELDS: Public Finance

References

Professor Sofia Villas-Boas	Professor Jim Sallee	Professor Max Auffhammer
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Placement Officers

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Prior Education

UC Berkeley	M.S., Agricultural and Resource Economics	2018
Montana State University	M.S., Applied Economics	2016
UC Davis	B.S., Managerial Economics	2013

Prior Employment

Lawrence Berkeley National Lab	Graduate Student Researcher Assistant, WholeTraveler Transportation Behavior Study	2018-2019
Montana State University	Graduate Student Researcher (Drs. Anderson, Fitzgerald)	2014-2016

Teaching

UC Berkeley	Department of ARE, *Introduction to Applied Econometrics,* Sofia Villas-Boas	2020, 2021
UC Berkeley	Haas EWMBA, *Data and Decisions,* Max Auffhammer	2020, 2021
UC Berkeley	Haas EWMBA, *Data and Decisions Pre-Term Workshop,* Veselina Dinova	2020, 2021
UC Berkeley	Department of ARE, *Introduction to Applied Econometrics,* James Sears (Instructor)	2019
UC Berkeley	Haas EWMBA, *Economics for Business Decision-Making,* Jim Sallee	2019
UC Berkeley	Haas EWMBA, *Economics for Business Decision-Making,* Catherine Wolfram	2017
UC Berkeley	International and Area Studies, *Intermediate Microeconomics,* Max Auffhammer	2017
UC Berkeley	Haas EWMBA, *Economics for Business Decision-Making,* Max Auffhammer	2016, 2017

Languages
English (native), Italian (proficient), Spanish (limited working)

Grants, Fellowships, and Awards

2021	ARE Summer Grant ($3,000)
2020	Outstanding Graduate Student Instructor Award, WEAI Outstanding Review Service Award
2019	ARE Travel Grant ($1,500)
2018	Cheit Award for Excellence in Teaching (Haas EWMBA)

Job Market Paper

"Culpable Consumption: Residential Response to Price and Non-Price Water Conservation Measures" (JOB MARKET PAPER)

Growing demand for urban water supplies and shifting global climates present an acute need among urban water districts for conservation policy instruments that can elicit both long and short-run conservation behavior. Using quasi-experimental long-run variation in prices and exposure to short-run price and non-price policy instruments during severe drought in San Francisco's East Bay Area, I investigate the effectiveness of these instruments for inducing urban water conservation across both time horizons. First, I utilize rich administrative panel data to characterize the evolution of demand elasticities in the face of long-run adaptation needs and short-run scarcity. My empirical approach isolates price responses from mean reversion and distributional shifts, common sources of bias in water demand studies. Demand models yield evidence of drastic attenuation in overall price elasticities during and post-drought with continued responsiveness among top water users. Next, I leverage quasi-experimental variation in exposure to fees, moral suasion, and public shame to separately identify consumer responses to each instrument during the drought emergency. While subject to behavioral interventions, top users display no conservation response to excessive use fees. Moral suasion and public shame event studies show substantial short-run conservation impacts that vanish once the drought emergency is lifted and consumer beliefs in the acute crisis fade. These findings yield important implications for the design of future urban water policies that can balance short and long-run conservation goals.

Selected Publications

"Are we #Stayinghome to Flatten the Curve?" with J. Miguel Villas-Boas, Sofia Villas-Boas, and Vasco Villas-Boas

Accepted, American Journal of Health Economics

(The recent spread of COVID-19 across the U.S. led to concerted efforts by states to "flatten the curve" through the adoption of stay-at-home mandates that encouraged individuals to reduce travel and maintain social distance. Combining data on changes in travel activity and human encounter rates with state policy adoption timing, we first characterize the overall changes in mobility patterns that accompanied COVID-19's spread. We find evidence of dramatic nationwide declines in mobility and human encounters prior to adoption of any statewide mandates. Then, using difference-in-differences along with weighted and unweighted event study methods, we isolate the portion of those reductions directly attributable to statewide mandates. Once states adopt a mandate, we estimate further mandate-induced declines between 2.1 and 7.0 percentage points relative to pre-COVID-19 baseline levels. While residents of mandate states soon returned to prior business visitation patterns, the impacts on distances traveled and human encounter rates persisted throughout the observed mandate periods. Our estimates of early mobility reductions and the responses to statewide stay-at-home policies convey important policy implications for the persistence of mobility behavior changes and states' future re-openings.

"Tree-based Matching on Structural Equation Model Parameters" with Sarfaraz Serang.

In press, Journal of Behavioral Data Science (pre-print version).

Understanding causal effects of a treatment is often of interest in the social sciences. When treatments cannot be randomly assigned, researchers must ensure that treated and untreated participants are balanced on covariates before estimating treatment effects. Conventional practices are useful in matching such that treated and untreated participants have similar average values on their covariates. However, situations arise in which a researcher may instead want to match on model parameters. We propose an algorithm, Causal Mplus Trees, which uses decision trees to match on structural equation model parameters and estimates conditional average treatment effects in each node. We provide a proof of concept using two small simulation studies and demonstrate its application using COVID-19 data.

Selected Publications

"Clustering Life Course to Understand the Heterogeneous Effects of Life Events, Gender, and Generation on Habitual Travel Modes" with Ling Jin, Alina Lazar, Annika Todd, Alex Sim, Kesheng Wu, Hung-Chia Yang, and C. Anna Spurlock.
IEEE Access. 2020. Vol 8, 190964 - 190980.
Daily transportation mode choice is largely habitual, but transitions between life events may disrupt travel habits and can shift choices between alternative transportation modes. Although much is known about general mode switches following life event transitions, less is understood about differences that may exist between subpopulations, especially from a long-term perspective. Understanding these differences will help planners and policymakers introduce more targeted policy interventions to promote sustainable transportation modes and inform longer-term predictions. Extending beyond existing literature, we use data collected from a retrospective survey to investigate the effects of life course events on mode use situated within different long-term life trajectory contexts. We apply a machine-learning method called joint social sequence clustering to define five distinct and interpretable cohorts based on trajectory patterns in family and career domains over their life courses. We use these patterns as an innovative contextual system to investigate (1) the heterogeneous effects of life events on travel mode use and (2) further differentiation between gender and generation groups in these life event effects. We find that events occurring relatively early in life are more strongly associated with changes in mode-use behavior, and that mode use can also be affected by the relative order of events. This timing and order effect can have lasting impacts on mode use aggregated over entire life cycles: members of our "Have-it-alls" cohort-who finish their education, start working, partner up, and have children early in life-ramp up car use at each event, resulting in the highest rate of car use occurring the earliest among all the cohorts. Women drive more when having children primarily when their family formation and career formation are intertwined early in life, and younger generations rely relatively more on car use during familial events when their careers have a later start.

"Describing the Users: Understanding adoption of and interest in shared, electrified, and automated transportation in the San Francisco Bay Area" with C. Anna Spurlock, Gabrielle Wong-Parodi, Victor Walker, Ling Jin, Margaret Taylor, Andrew Duvall, Anand R. Gopal, and Annika Todd.
Transportation Research Part D: Transport and Environment. 2019. Vol 71, 283-301.
Emerging technologies and services stand poised to transform the transportation system, with large implications for energy use and mobility. The degree and speed of these impacts depend largely on who adopts these innovations and how quickly. Leveraging data from a novel survey of San Francisco Bay Area residents, we analyze adoption patterns for shared mobility, electrified vehicle technologies, and vehicle automation. We find that ride-hailing and adaptive cruise control have penetrated the market more extensively than have electrified vehicles or car-sharing services. Over half of respondents have adopted or expressed interest in adopting all levels of vehicle automation. Overall, there is substantial potential for market growth for the technologies and services we analyzed. Using county fixed effects regressions, we investigate which individual and location-level factors correlate to adoption and interest. We find that, although higher-income people are disproportionately represented among current adopters of most new technologies and services, low to middle-income people are just as likely to have adopted pooled ride-hailing. Younger generations have high interest in automated and electrified vehicles relative to their current adoption of these technologies, suggesting that young people could contribute substantially to future market growthâas they are doing for ride-hailing. We find no evidence that longer commutes present a barrier to plug-in electric vehicle adoption. Finally, women are less likely than men to adopt and/or be interested in adopting most new transportation technologies, with the exception of ride-hailing; designing or marketing technologies with womenâs preferences in mind could contribute to future market expansion.

Research in Progress

"Food for Thought: How Food Banks Mitigate the SNAP Benefit Cycle".
Working Paper
Many recent works have documented the existence of the âSNAP Benefit Cycleâ in which a non-negligible portion of enrolled households exhaust their benefits early in the benefit month. Lack of benefits late in the month carries large consequences, with negative impacts ranging from reduced energy intake and nutritional content, to increased likelihood of hypoglycemia and pregnancy-related emergency room admissions, along with lowered test performance and increased disciplinary action for students. These effects diminish or are otherwise nonexistent for SNAP households that exhibit consumption smoothing. The ability for low-income households to complement resources from federal poverty programs with a local public good has major implications for household welfare and the value of food bank networks. This paper investigates the extent to which SNAP participants in California utilize food bank resources to augment consumption throughout the benefit month.

"A Reputation For the Good Stuff: User Feedback Signaling and the Deep Web Market Silk Road".
Paper in Preparation
Despite complete user anonymity, asymmetrical information, and incomplete enforcement mechanisms, the deep web market Silk Road facilitated approximately $200 million in illegal drug sales in 34 months. This study tests how the siteâs reputation system facilitated successful transactions and how user feedback functioned as the primary signal of seller quality in the absence of formal contract enforcement. Using novel data from the site on marijuana, amphetamine, and meth transactions, listings, and vendors, I find strong evidence that consumers engaged with the siteâs reputation system and relied on both item and seller-level information. Hedonic regressions provide evidence of a âbad newsâ learning environment, estimating a 3 to 11% price discount for negative item reviews. Seller ratings are found to act as an effective proxy for permanent seller characteristics, and named trains act as a primary source of quality (and price) differentiation for marijuana. I find no evidence of price penalties or signal heterogeneity for new sellers. This study is the first to shed light on the value of reputation on the deep webâs largest marketplace, yielding new insight into the mechanisms modern markets use to overcome social distance and prevent market failure.

Talks

2021	AAEA/WAEA Joint Annual Meetings, Camp Resources XXVII, OSWEET
2020	11th Annual Giannini Foundation of Agricultural and Resource Economics Student Conference
2019	10th Annual Giannini Foundation of Agricultural and Resource Economics Student Conference
2018	Behavior, Energy, and Climate Change Conference, 9th Annual Giannini Foundation of Agricultural and Resource Economics Student Conference

Refereeing

American Journal of Health Economics, Economic Inquiry (WEAI Outstanding Review Service Award 2020)

Activities

2019-2020 Ph.D. Admissions Committee, UC Berkeley Department of ARE