Scott Kostyshak

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CURRENT POSITION

Assistant Professor of Economics
Department of Economics
University of Florida
Start date: August 2015

PAST POSITIONS

Visitor
Centre de Recerca en Economia Internacional
Barcelona, Spain
July 2023

Visitor
Colegio Universitario de Estudios Financieros
Madrid, Spain
June 2023

EDUCATION

Ph.D. in Economics
Princeton University 2015
Thesis Title: "Non-parametric Testing of U-shaped Relationships"
Advisor: Bo Honoré

M.A. Economics
Princeton University 2011

B.A. Mathematics, B.A. Economics, B.A. Political Science
University of California, San Diego 2008

RESEARCH INTERESTS

Applied Econometric Theory, Empirical Microeconomics, Computational Statistics

PUBLICATIONS

"Shape-Enforcing Operators for Generic Point and Interval Estimators of Functions" with Xi Chen, Victor Chernozhukov, Iván Fernández-Val, and Ye Luo (2021). *Journal of Machine Learning Research* 22 (220): 1–42.

"The Three Arab Worlds on the Eve of the Arab Spring" with James E. Rauch (2014). *Handbook On Islam And Economic Life*, edited by M. Kabir Hassan and Mervyn K. Lewis. Edward Elgar Publishing.

"The Three Arab Worlds" with James E. Rauch (2009). *Journal of Economic Perspectives* 23 (3): 165–188.

REFEREEING

Econometrica, Journal of Statistical Software, Review of Economics and Statistics

WORKING PAPERS

Title: "Endogenous Information Acquisition in Candidate Evaluation" (with Katherine B. Coffman and Perihan Saygin)

Abstract: Most studies of gender discrimination consider how male versus female candidates are assessed given otherwise identical information about them. But, in many settings of interest, evaluators have a choice about how much information to acquire about a candidate before making a final assessment. We use a large controlled experiment to explore how this type of endogenous information acquisition amplifies discriminatory outcomes in a simulated hiring environment. Across evaluators, we vary the composition of candidate pools, exploring not only environments where men outperform women on average but also environments with no gender difference or with a female advantage. Perhaps surprisingly, we observe no gender discrimination overall: conditional on their likelihood of being qualified, male and female candidates receive indistinguishable evaluations. But, we observe important differences across candidate pools. Candidates belonging to an advantaged group—the gender with the performance advantage in the pool—receive significantly better evaluations than equally qualified candidates in pools with no gender gap in performance. Similarly, candidates belonging to a disadvantaged group—the gender with a performance disadvantage in the pool—receive significantly worse evaluations relative to equally qualified candidates in pools with no gender gap in performance. This "relative advantage" bias appears in initial assessments, influences how evaluators update their beliefs about a candidate after acquiring more information, and persists in final evaluations. This bias has a significantly larger impact on evaluations when evaluators endogenously acquire information compared to treatments where we exogenously provide it, in part because we observe significant under-acquisition of information. We show that this bias leads to two important types of mistakes: evaluators miss out on talented candidates from disadvantaged groups and over-select less talented candidates from advantaged groups.

Title: "The Partial Monotonicity Parameter: A Generalization of Regression Monotonicity" (with Ye Luo)

Abstract: We define the partial monotonicity parameter (PMP) as the proportion of the population for which a small increase in an explanatory variable is associated with an increase in the outcome variable. The PMP is a novel approach useful in three classes of applications: (1) Even though monotonicity may be the most common predicted relationship among variables in economics, it is rarely tested in practice because even a small violation causes it to be rejected. The PMP fills this gap between theory and practice by allowing for estimation of an interpretable parameter that includes standard monotonicity as a special case. (2) The PMP generalizes from binary categorizations to continuums some classical properties, such as a good being normal, and relations, such as inputs being complements. (3) In the presence of heterogeneous effects, inference on the PMP provides answers to policy-relevant questions, including whether an increase in a variable would benefit the majority of the population. We provide results for parametric and non-parametric

inference for the PMP, as well as results for joint inference with average-effect parameters.

Title: "Down to the Last Strike: The Effect of the Jury Lottery on Conviction Rates" (with Neel U. Sukhatme)

Abstract: How much does luck matter to a criminal defendant in a jury trial? We use rich data on jury selection to causally estimate how parties who are randomly assigned a less favorable jury (as proxied by whether their attorneys exhaust their peremptory strikes) fare at trial. Our novel identification strategy does not require the unrealistic exclusion restriction required by instrumental variable regression, and is unique in that it captures variation in juror predisposition from variables unobserved by the econometrician but observed by attorneys. We find that criminal defendants who lose the "jury lottery" are more likely to be convicted than their similarly-situated counterparts, with a significant effect for black defendants. For black defendants, strike exhaustion raises the chances of conviction by 16-18 percentage points. Our results are robust to alternate specifications and raise important policy questions about race and the use of peremptory strikes in the criminal justice system. In particular, our results suggest that increasing peremptory strike limits for defendants would decrease the variance in outcomes for similarly-situated black defendants.

Title: "Flatness-Robust Critical Bandwidth"

Abstract: Critical bandwidth (CB) can be used to test the multimodality of densities and regression functions, as well as for clustering methods. This paper proposes a solution to the well-known problem that CB tests are generally inconsistent if the function of interest is constant ("flat") over an interval. The solution, flatness-robust CB (FRCB), exploits the fact that the problem manifests only from regions consistent with the null hypothesis, and thus identifying and excluding them does not alter the null or alternative sets. I provide sufficient conditions for consistency of FRCB, and simulations of a test of regression monotonicity demonstrate the finite-sample properties of FRCB compared with CB for various regression functions. I illustrate the usefulness of FRCB with an empirical analysis of the monotonicity of the conditional mean function of radiocarbon age with respect to calendar age.

Title: "Non-Parametric Testing of U-Shapes, with an Application to the Midlife Satisfaction Dip"

Abstract: Many theories in economics predict U-shaped relationships between variables. However, satisfactory tools to examine U-shapes are lacking. After explaining the limitations of the commonly employed quadratic specification, I propose a non-parametric test of U-shaped regression functions based on critical bandwidth. The test allows one to determine whether an inherent U-shape exists between two variables or the relationship is instead caused by correlation with other variables. I apply the test to the commonly observed U-shape of life satisfaction in age, and find that much of the U-shape can be explained by the increase in financial satisfaction that typically occurs later in life. This novel insight into a long-studied puzzle is not revealed by using a quadratic specification. A user-friendly and efficient R package is provided.

WORK IN PROGRESS

- Identification of Momentum in Elections (with Neel Sukhatme)

- Knowing What You Know: Assessing Metacognition (with Perihan Saygin)

- Estimating Peer Effects, with an Application to Study Abroad (with Perihan Saygin)

- A Nonparametric Test of Quasi-Convexity

TEACHING EXPERIENCE

2017–	ECO 4421	UF "Econometrics"	Undergraduate
2016–	ECO 7415	UF "Statistical Methods"	Ph.D.
2015–2016	ECO 4934	UF "Special Topics: Econometrics"	Undergraduate
2014–2015	WWS 508C	PU "Econometrics and Public Policy (Advanced)"	M.P.A and Ph.D. (TA)
2013–2014	SupStat	"Introduction to Data Science With R"	Professionals
2013–2014	ECO 359	PU "International Development"	Undergraduate (TA)
2012–2013	WWS 508C	PU "Econometrics and Public Policy (Advanced)"	M.P.A and Ph.D. (TA)

COMPUTER PROGRAMMING

Languages

C++, R, Perl

OTHER INFORMATION

Citizenship

USA

Languages

English (native), Spanish (fluent), French (fluent)

Study Abroad

2006	Universidad Nacional de Colombia	Colombia
2006	Universidad de los Andes	Colombia
2003–2004	Université de Toulouse	France