Effects of the COVID-19 Pandemic on Domestic Violence in US Cities

Principal Investigators

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Project Description

Around the world, news outlets have reported increases in domestic violence (DV) as a result of the COVID-19 pandemic and the attendant restrictions on individual mobility and commercial activity. There are several reasons to expect that DV would increase for married and cohabiting couples: additional stress in the household, increased unemployment, increased hours spent together in close quarters, a decline in access to mitigation services aimed at victims or perpetrators, and possible increases in alcohol consumption and handgun purchases. However, victims who wish to report their abuser or seek assistance may also face further barriers to reporting during the pandemic, which could significantly depress reporting rates. There are also forces that could reduce DV, such as COVID-19 sickness or mortality in a household or less time spent together by couples that live apart. The effects of the pandemic on both the true incidence of DV and the reported incidence are therefore ambiguous.

In the first phase of this proposed project, we will quantitatively examine the effects of the COVID-19 pandemic on reported DV using daily, city-level data on 911 calls and crime incidents recorded by police. We will study the effects of the spread of COVID-19 itself as well as the effects of pandemic-related policy. Cities across the country vary with respect to the timing and severity of disease prevalence as well as the timing and duration of stay-at-home orders, school and business closings, and limits on gatherings. These policies may have direct and indirect effects on DV incidence and reporting. Many of the side effects of the pandemic are also known aggravators for DV, such as negative income shocks, social isolation, and substance abuse. It is likely that the pandemic will amplify the impact of existing public policies and programs that address these side effects. We therefore aim to identify, to the extent possible, local policies and contextual factors that drive variation across cities in the impact of the pandemic on DV reporting. The results can contribute to improved policy-making in response to the ongoing pandemic and related to DV once the pandemic ends.

Data on reported DV cases will be hand-collected from individual municipal police departments in major US cities. Some police departments publish real-time data on 911 calls and crime incidents. Thus far, we have analyzed data from Los Angeles, Memphis, Chicago, Austin and Fort Worth. We will expand this list to include other cities that publish data online, as well as data gathered from police departments via public records requests. For comparison groups, we will use incident reports to collect data on non-domestic violent crime and property crime. We do not expect the pandemic to depress reporting rates as much for these other crimes, though it is possible that fear of infection makes all crimes victims more reluctant to interact with police. Stress could increase all assaults, but non-domestic assaults may decline if people spend more time at home. Theft could decrease with less economic activity but increase with worsening economic conditions. Including these crimes in our analyses will allow us to assess if the effects of the pandemic on DV are driven by common factors that affect all violent crimes or all types of criminal activity.

The primary benefit of using police data for this first phase is the availability of real-time data that will allow us to track the effects of the pandemic despite delays in national and state data pertaining to DV. Although DV is underreported, more severe cases are more likely to be reported to police and may provide an informative measure of the prevalence of severe, life-threatening violence. High frequency data will be particularly important for tracking the dynamics of reporting over the course of the pandemic. If victims are unable to call for assistance while abusers are at home, we may expect a decline in reporting during stay-at-home orders that may be followed by an increase when restrictions are lifted.

Figure 1 shows the trends in crime data from Los Angeles before and after the city implemented a stay-at-home order on March 19th.

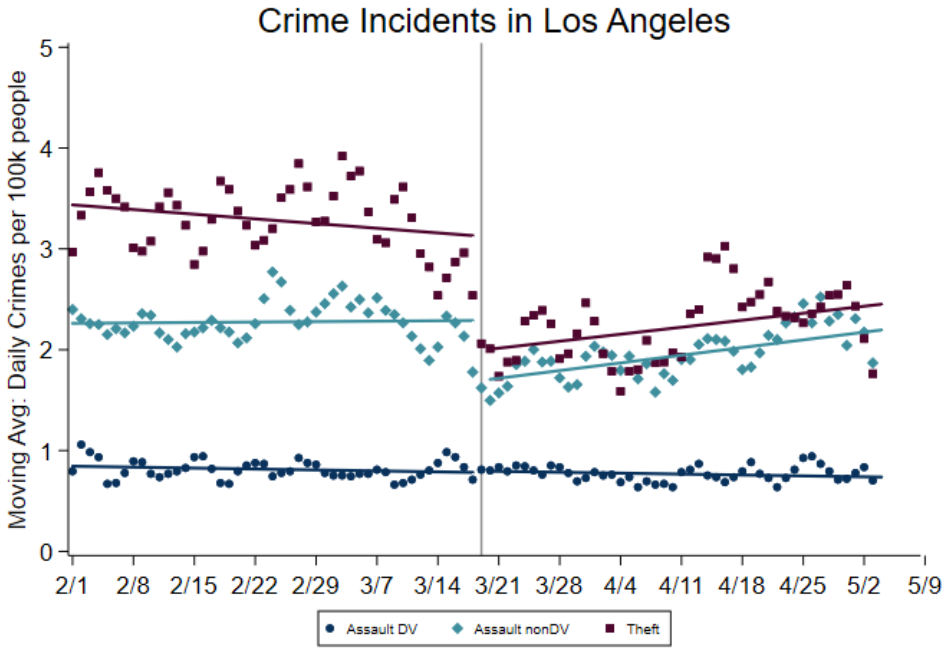


Figure 1: Crime Reported in LA Before and After Stay-At-Home

This figure displays a 3-day moving average of the daily crime rate recorded by the Los Angeles Police Department, with linear trends for the periods before and after the city implemented a stay-at-home order on March 19th. Assaults include both aggravated assault and simple assaults.

One concern is the possibility that DV victims are unable to call for assistance during stay-at-home orders because they are sheltering with their abusers and lack privacy. If that is the case, then we may expect an increase in reporting in the period immediately following the relaxation of a stay-at-home order, if levels of violence remain elevated or if victims report earlier incidents (e.g., as a step to obtaining a protective or restraining order). The data from Memphis, displayed in Figure 2, show an increase in cases immediately after restrictions were lifted on April 27, following a steady decline in domestic assaults over the course of the stay-at-home period. These results persist when removing day-of-week fixed effects.

We will combine the police data with data from a variety of sources describing the severity of the pandemic, the evolution of local policies, and the timing of changes in individual mobility. These data include, but are not limited to, COVID-19 diagnoses and deaths, the timing and characteristics of state and city social distancing mandates, and cell phone and consumer spending data as proxies for individuals' mobility and economic activity. Our identification strategy will

exploit variation across cities over the course of 2020 in the timing of disease spread and social distancing requirements. We will also identify effects by comparing monthly, seasonal, and weekly variation in 2020 compared to similar variation in 2019 and earlier years.

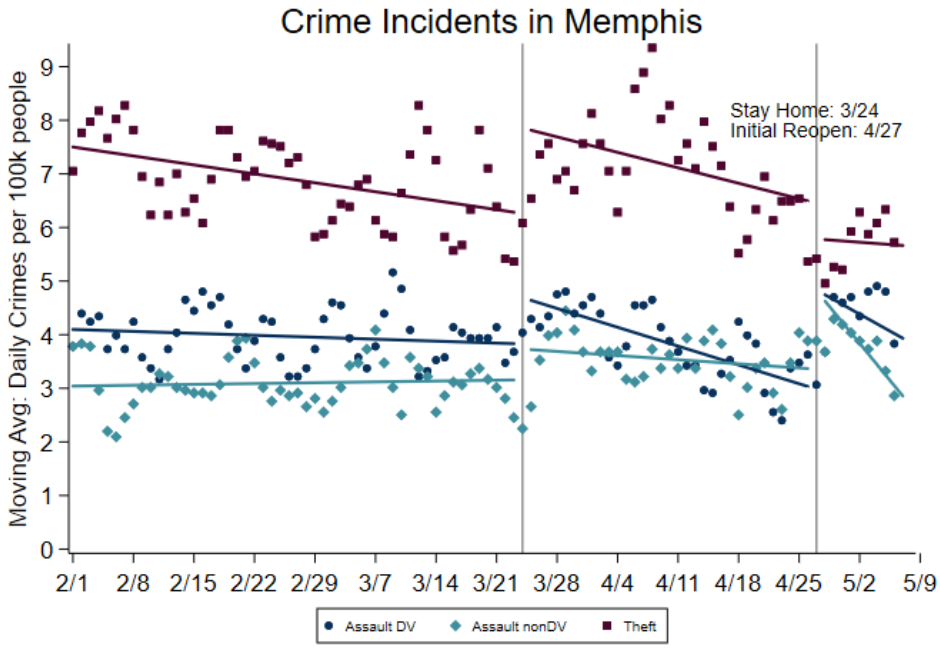


Figure 2: Crime Reported in Memphis Before and After Stay-At-Home

This figure displays a 3-day moving average of the daily crime rate recorded by the Memphis Police Department with linear trend segments for the periods before, during, and after the city's stay-at-home order that was implemented from March 24th until April 27th. The increase in domestic violence assault crimes in the days after the stay-at-home order ended persists after removing day of week fixed effects.

Our initial difference-in-difference regression analysis compares 2020 to 2019 data before and after the implementation of stay-at-home orders in five large cities across the United States. The estimates provide little evidence of an increase in domestic assault reporting during the first few weeks of stay-at-home orders compared to the same month and day-of-week in 2019. While we observe heterogeneity across cities, domestic assault reports to police have declined or remained level as the pandemic has spread. This suggests that any increase in incidence is being offset by a decrease in reporting. By contrast, rates of the two other crimes we consider, non-domestic assaults and property crimes, have declined overall. As a result, DV represents an increasing share of crime reported to police.

Our immediate plan is to continue to add cities and days to our data set and to extend our analysis of the effects of pandemic policies and disease spread on reported domestic crime. We expect to have results of this analysis complete in time to present at a conference next summer. We may also be able to report results on the effectiveness of non-pandemic local factors at mitigating the effects of the pandemic on DV. In the long-term, we aim to examine how the dynamics of the pandemic and associated policies affect DV incidence (including reported and unreported cases) and the barriers to DV reporting. Over time, as other sources of data become available for the relevant time period, we plan to compare rates reported to the police to other measures of violence using data on mortality, on violent deaths, and on victimization.

Use of Funds

The primary use of funds will be to cover the costs of hiring a graduate research assistant who will be responsible for gathering data over the next several months as the progression of the disease changes and as distancing measures are increased and decreased, possibly over multiple cycles. We have already received $7,500 from IZA to support funding for the graduate research assistant. We are requesting an additional $15,000 to cover the remaining costs of the research assistantship. We will use the remaining funds to pay for data collection costs, such as copying and FOIA (freedom of information) fees, as needed, to supplement readily available data that we have already identified.

Graduate research assistant	$15,000
Fees associated with data collection	$5,000
Total	$20,000

AMALIA REBECCA MILLER
Curriculum Vitae
May 2020

EDUCATION

2004 Ph.D. in Economics, Stanford University
1999 S.B. in Economics, Massachusetts Institute of Technology
Minor in Women's Studies

EMPLOYMENT AND AFFILIATIONS

8/2016 – present	Professor of Economics, University of Virginia
5/2014 – present	Research Associate, NBER Law and Economics Program
1/2014 – present	IZA Research Fellow
8/2010 – 8/2016	Associate Professor of Economics, University of Virginia
8/2010 – 7/2012	Economist, RAND Corporation
8/2004 – 8/2010	Assistant Professor of Economics, University of Virginia

PUBLICATIONS

[1] "Do Female Officers Improve Law Enforcement Quality? Effects on Crime Reporting and Domestic Violence" (with Carmit Segal), 2019, *Review of Economic Studies* 85(5): 2220–2247.

[2] "Who Votes for Medicaid Expansion? Lessons from Maine's 2017 Referendum" (with David Matsa), 2019, *Journal of Health Politics, Policy and Law* 44(4): 563–588.

[3] "Privacy Protection, Personalized Medicine, and Genetic Testing" (with Catherine Tucker), 2018, *Management Science* 64(10): 4471–4965.

[4] "The Effects of Job Relocation on Spousal Careers: Evidence from Military Change of Station Moves" (with Jeremy Burke), 2018, *Economic Inquiry* 56(2): 1261–1277.

[5] "Women Helping Women? Evidence from Private Sector Data on Workplace Hierarchies" (with Astrid Kunze), 2017, *Review of Economics and Statistics* 99(5): 769–775.

[6] "Playing the Fertility Game at Work: An Equilibrium Model of Peer Effects" (with Federico Ciliberto, Helena Skyt Nielsen, Marianne Simonsen), 2016, *International Economic Review* 57(3): 827–856.

[7] "Electronic Discovery and the Adoption of Information Technology" (with Catherine Tucker), 2014, *Journal of Law, Economics and Organization* 30(2): 217–243.

[8] "Workforce Reductions at Women-Owned Businesses in the United States" (with David Matsa), 2014, *Industrial and Labor Relations Review* 67(2): 422–452.

[9] "Health Information Exchange, System Size and Information Silos" (with Catherine Tucker), 2014, *Journal of Health Economics* 33(1): 28–42.

[10] "Financing of Employer Sponsored Health Insurance Plans Before and After Health Reform: What Consumers Don't Know Won't Hurt Them?" (with

Christine Eibner and Carole Roan Gresenz), 2013, *International Review of Law and Economics* 36: 36–47.

[11] "A Female Style in Corporate Leadership? Evidence from Quotas" (with David Matsa), 2013, *American Economic Journal: Applied Economics*, 5(3): 136–169.

[12] "Active Social Media Management: The Case of Health Care" (with Catherine Tucker), 2013, *Information Systems Research* 24(1): 52–70.

[13] "Does Temporary Affirmative Action Produce Persistent Effects? A Study of Black and Female Employment in Law Enforcement" (with Carmit Segal), 2012, *Review of Economics and Statistics*, 94(4): 1107–1125.

[14] "The Opt-In Revolution? Contraception and the Gender Gap in Wages" (with Martha J. Bailey, Brad Hershbein), 2012, *American Economic Journal: Applied Economics*, 4(3): 225–254.

[15] "Intergenerational Effects of Welfare Reform on Educational Attainment" (with Lei Zhang), 2012, *Journal of Law and Economics*, 55(2): 437–476.

[16] "The Effects of Motherhood Timing on Career Path," July 2011, *Journal of Population Economics*, 24(3): 1071–1100.

[17] "Encryption and the Loss of Patient Data" (with Catherine Tucker), 2011, *Journal of Policy Analysis and Management*, 30(3): 534–556.

[18] "Chipping Away at the Glass Ceiling: Gender Spillovers in Corporate Leadership" (with David Matsa), 2011, *American Economic Review Papers and Proceedings*, 101(3): 635–639.

[19] "Can Health Care Information Technology Save Babies?" (with Catherine Tucker), 2011, *Journal of Political Economy*, 119(2): 289–324.

[20] "Did the Airline Tariff Publishing Case Reduce Collusion?" 2010, *Journal of Law and Economics*, 53(3): 569–586.

[21] "The Effects of Welfare Reform on the Academic Performance of Children in Low-Income Households" (with Lei Zhang), 2009, *Journal of Policy Analysis and Management*, 28(4): 577–599.

[22] "Privacy Protection and Technology Diffusion: The Case of Electronic Medical Records" (with Catherine Tucker) 2009, *Management Science*, 55(7): 1077–1093.

[23] "Motherhood Delay and the Human Capital of the Next Generation," May 2009, *American Economic Review Papers and Proceedings*, 99(2): 154–58.

[24] "The Impact of Midwifery-Promoting Public Policies on Medical Interventions and Health Outcomes," 2006, *B. E. Journal of Economic Analysis & Policy (Advances),* 6(1): Article 6.

[25] "Women and Leadership" in the *Oxford Handbook on Women and the Economy*, eds. Susan L. Averett, Laura M. Argys and Saul D. Hoffman, 2018, New York: Oxford University Press.

[26] "Frontiers of Health Policy: Digital Data and Personalized Medicine" (with Catherine Tucker) *Innovation Policy and the Economy*, Vol. 17, eds. Shane Greenstein, Josh Lerner and Scott Stern, 2017, University of Chicago Press.

[27] Comment on "Information Lost" by Catherine Mann, *Economic Analysis of the Digital Economy*, eds. Shane Greenstein, Avi Goldfarb, and Catherine Tucker, 2015, NBER and University of Chicago Press.

[28] Comment on "Fifty Years of Family Planning: New Evidence on the Long-Run Effects of Increasing Access to Contraception" by Martha J. Bailey, *Brookings Papers on Economic Activity*, 2013.

[29] "Marriage Timing, Motherhood Timing and Women's Wellbeing in Retirement" in *Lifecycle Events and Their Consequences: Job Loss, Family Change, and Declines in Health*, eds. Kenneth A. Couch, Mary C. Daly and Julie Zissimopoulos, 2013, Stanford University Press.

[30] "Compensating Wounded Warriors: An Analysis of Injury, Labor Market Earnings, and Disability Compensation among Veterans of the Iraq and Afghanistan Wars" (with Paul Heaton, David S. Loughran), 2012, RAND Monograph MG-1166-OSD.

[31] "Analysis of Financial Support to the Surviving Spouses and Children of Casualties in the Iraq and Afghanistan Wars" (with Paul Heaton, David S. Loughran), 2012, RAND Technical Report TR-1281-OSD.

[32] "Employer Self-Insurance Decisions and the Implications of the Affordable Care Act as Modified by the Health Care and Education Reconciliation Act of 2010 (ACA)" (with Christine Eibner, Federico Girosi, Amado Cordova, Elizabeth A. McGlynn, Nicholas M. Pace, Carter C. Price, Raffaele Vardavas, Carole Roan Gresenz), 2011, RAND Technical Report TR-971-DOL.

[33] Comment on "Fertility Theories: Can They Explain the Negative Fertility-Income Relationship?" by Larry E. Jones, Alice Schoonbroodt and Michèle Tertilt in *Demography and the Economy*, ed. John Shoven, 2010, NBER and University of Chicago Press.

TEACHING EXPERIENCE

Graduate: Public Economics; Undergraduate: Health Economics, Economics and Gender, Seminar in Policy Analysis, Distinguished Majors Seminar

SELECTED GRANTS AND CONTRACTS

"Effects of the 2019 Novel Coronavirus on Domestic Violence in the US" (with Carmit Segal), IZA Coronavirus Emergency Research Thrust, 2020.

"Mitigating the Adverse Effects of PCS Moves by Facilitating Portable Careers," DoD, 2012 – 2016.

"Health IT in Ambulatory Care Settings: Effects on Quality and Disparities," AHRQ, 2012 – 2015.

"Privacy Protection and Genetic Testing" (with Catherine Tucker), NSF, 2012 – 2014.

"Peer Effects in Fertility Decisions" (with Federico Ciliberto), NICHD, 2011 – 2013.

SELECTED PROFESSIONAL SERVICE

Editorial Review Board Member of *Leadership Quarterly*, *Industrial and Labor Relations Review*, *Learning Health Systems, Demography*

Member of the National Academies of Sciences, Engineering, and Medicine Committee on the Assessment of the SBIR and STTR Programs at NIH, 2020

Board Member of AEA Committee on the Status of Women in the Economics Profession (CSWEP), 2013 – 2018

Journal and grant proposal reviewer for multiple journals and agencies, service on US National Science Foundation, Economics Advisory Panel (multiple years).

May 5, 2020

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CONTACT INFORMATION

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EDUCATION

Stanford University	Ph.D. Economics, June 2005. Thesis: "Essays on Human Capital" Advisors: Edward Lazear (Primary), Muriel Niederle, and Edward Vytlacil.
Tel Aviv University, Israel	M.Sc. in Physics, *Magna cum laude*, June 1997. B.Sc. in Physics, June 1993.

EMPLOYMENT

3/2016 – present	Associate Professor, University of Zurich
9/2011 – 2/2016	Assistant Professor, University of Zurich
6/2007 – 9/2011	Assistant Professor, Universitat Pompeu Fabra
7/2005 – 6/2007	Post Doctoral Fellow of Business Administration (Supervisor: Alvin Roth), Harvard Business School.

EDITORIAL POSITIONS

Associate Editor, *Journal of Economic Behavior and Organization*, 2013 – 2019.

OTHER PROFESSIONAL ACTIVITIES

Member, Advisory Panel Character & Opportunity Project, The Brookings Institution, 2014 – 2016.

RESEARCH INTERESTS

Personnel/Managerial Economics, Labor Economics, Experimental/Behavioral Economics.

PUBLICATIONS:

"Do Female Officers Improve Law Enforcement Quality? Effects on Crime Reporting and Domestic Violence" (with Amalia R. Miller), *The Review of Economic Studies*, 86(5), 2019, pp. 2220-2247.

"Misbehavior, Education, and Labor Market Outcomes," *The Journal of the European Economic Association, 11(4), 2013, pp. 743-779.*

"How Costly is Diversity? Affirmative Action in Light of Gender Differences in Competitiveness" (with Muriel Niederle and Lise Vesterlund), *Management Science*, 59(1), 2013, pp. 1-16.

"Working When No One is Watching: Motivation, Test Scores, and Economic Success," *Management Science*, 58(8), 2012, pp. 1438-1457.

Press Coverage: *Slate*, "How Children Succeed," by Paul Tough, September 5, 2012.
Freakonomics Blog (The New York Times), "The Economics of Tiger Parenting", by Ian Ayres, January 21, 2011.
Forbes Magazine, "For the Love of the Game", by Ian Ayres and Barry Nalebuff, March 12, 2007.

"Does Temporary Affirmative Action Produce Persistent Effects? A Study of Black and Female Employment in Law Enforcement" (With Amalia R. Miller), *The Review of Economics and Statistics*, 94(4), 2012, pp. 1107–1125.

"Classroom Behavior," *Journal of Human Resources*, 43(4), 2008, pp. 783-814.

OTHER PUBLICATIONS:

"Conduction Processes in Crystalline Ni_xSi_{1-x} Films," (with A. Gladkikh, M. Pilosof, H. Behar, M. Witcomb and R. Rosenbaum), 1998, *Journal of Physics: Condensed Matter*, (10), pp. 123-134.
"Women, Character, and Competition," in *Essays on Character and Opportunity*, The Brookings Institution, 2014.

FINISHED AND SUBMITTED PAPERS:

"Does Workplace Competition Increase Labor Supply? Evidence from a Field Experiment" with (Amalia R. Miller and Ragan Petrie)
"Relational Contracts in the Market: The Lure of Relationships" (with Florian Englmaier).
"Gender Differences in Competitiveness: The Role of Prizes" (with Ragan Petrie). Revision requested by *Journal of Economic Behavior and Organization*
"Unions, Communication, and Cooperation in Organizations" (with Florian Englmaier). Revision requested by *Journal of Institutional and Theoretical Economics.*

RESEARCH PAPERS IN PROGRESS

"Incentives, Effort, and Job-Retention" (with Zvika Neeman and Analía Schlosser).
"The Effects of Girls' Empowerment on Girls' Non-Cognitive Skills and Attitudes Towards Domestic Violence: Evidence from a Cluster Randomized Trial in Tanzania" (with Sonia Bhalotra, Selim Gulesci, Patrick Nolen, and Lisette Swart)
"Can Changing the Prizes Affect Gender Gaps in Competitive Task Selection? An Experimental Approach (with Muriel Niederle and Lise Vesterlund)
"Heterogeneity of Competitive Attitudes across Different Populations" (with Muriel Niederle, Ragan Petrie, and Lise Vesterlund)

AWARDS AND FELLOWSHIPS:

2020	IZA Coronavirus Emergency Research Thrust
2008 - 2010	"Juan de la Cierva" fellowship, Spanish Ministry of Education.
Summer 2004	Research Fellowship, John M. Olin Program in Law and Economics, Stanford Law School.
December 2003	Research Grant, Stanford Graduate Research Opportunity.

RECENT PRESENTATIONS AT CONFERENCES AND SEMINARS

2006	NBER Labor Studies Fall Meeting (Boston, MA); Wesleyan (Middletown, CT); Harvard University (Boston, MA); Stanford University (Stanford, CA), ESA - 2006 North American Regional Meeting (Tucson, AZ); Mannheim University (Mannheim, Germany); SEA 2006 Annual Meeting (Charleston, SC); ESA - 2006 Annual International Meeting (Atlanta, GA); NOM unit Harvard Business School.
2007	Econometric Society Winter Meeting 2007 (Chicago, IL); Case Western Reserve University (Cleveland, OH), Universitat Pompeu Fabra (Barcelona, Spain); IZA Workshop on Behavioral and Organizational Economics (Bohn, Germany); University of Zurich (Zurich, Switzerland).
2008	LSE (London, England); Tel Aviv University (Tel Aviv, Israel); FEDEA (Madrid, Spain); SOLE 2008 Annual Meetings (NY, NY), University of Munich (Munich, Germany); University of Alicante (Alicante, Spain); CRETA Summer Conference 2008 (Warwick, England); LAMES 2008 (Rio de Janeiro; Brazil); Universitat Pompeu Fabra (Barcelona, Spain); NBER Fall meeting (Cambridge, MA).
2009	The 8th IZA/SOLE Transatlantic Meeting of Labor Economists (Munich, Germany); COSME Workshop (Madrid; Spain) [Keynote Speaker]; Cultivating Human Capital, The University of Chicago (Chicago, IL).
2010	Ben Gurion University (Be'er Sheva, Israel); Southampton University (Southampton, England); Third International Conference SOLE-EALE 2010 (London, England);
2011	University of Zurich (Zurich, Switzerland).

2012 University of Warwick (Warwick, UK); SOLE 2012 Annual Meetings, (Chicago, IL); Tinbergen Institute (Amsterdam, the Netherlands); Heidelberg University (Heidelberg, Germany); St. Gallen University (St. Gallen, Switzerland).
2013 Aviv University (Tel Aviv, Israel), Workshop "Behavioral Public Economics" WU (Vienna, Austria); Erasmus University (Rotterdam, the Netherlands).
2014 University of Munich (Munich, Germany); University of Essex (Colchester, England), University of Bonn (Bonn, Germany); SOLE 2014 Annual Meetings (Arlington, VA); NBER Economics of Crime Summer Meetings (Boston, MA).
2015 Università della Svizzera italiana (Logano, Switzerland), LSE (London, England); Warwick Workshop in Labour Economics (Warwick, England); Workshop "The Economics of Discrimination" (Naples Italy); University of the Basque Country (Bilbao, Spain).
2016 University of Zurich (Zurich, Switzerland); SSES Annual Congress 2016 (Logano, Switzerland).
2017 HECER (Helsinki, Finland).
2019 3rd International BFH Conference on Discrimination in the Labor Market (Bern, Switzerland).

REFEREEING

American Economic Review; AEJ: Applied Economics; Economic Journal; Economic Inquiry; Econometrica, Economics of Education Review; Experimental Economics; Industrial and Labor Relations Review; Israel Science Foundation, Journal of Behavioral and Experimental Economics, Journal of Economic Behavior and Organization; Journal of Human Resources; Journal of Law, Economics, and Organizations; Journal of Labor Economics; Journal of Political Economy, Journal of Public Economics; Journal of the European Economic Association; Journal of Urban Economics; Labour Economics; Management Science; National Science Foundation; Quarterly Journal of Economic; Review of Economics and Statistics; Review of Economic Studies; Spanish Economic Review.

TEACHING EXPERIENCE:

University of Zurich

The Economics of Human Capital (MA), The Economics of Gender (BA), Economics of Gender in Education and Labor Markets (MA).

Universitat Pompeu Fabra:

Introductory Economics II (BA), Human Resource Management (MA), Mathematics I (BA).

University of Munich

Personnel Economics – Theory and Evidence (BA), Evidence on the Relationship in the Workplace (BA Seminar).