Shifrah Aron-Dine

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Education

Ph.D. Economics, Stanford University, 2025 (Expected)

B.S. Physics, Harvey Mudd College, 2016

References

Monika Piazzesi (co-primary)
Department of Economics, Stanford University
piazzesi@stanford.edu

Martin Schneider (co-primary)
Department of Economics, Stanford University
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Melanie Morten
Department of Economics, Stanford University
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Christopher Tonetti
Graduate School of Business, Stanford University
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Research Fields

Macroeconomics, Finance, Environmental Economics

Working Papers

Rebuild or Relocate? Recovery after Natural Disasters (*Job Market Paper*)

This paper studies the distributional effects of natural disasters and the impact of post-disaster policies. Using flight and new survey data from Puerto Rico after Hurricane Maria, I document household relocation and rebuilding decisions, highlighting the roles of age, wealth, and housing tenure. These empirical findings inform a dynamic equilibrium model of migration, housing, and infrastructure with heterogeneous households. Homeowners with property damage experience significant welfare losses from direct reductions in home equity and housing consumption, while renters and undamaged homeowners face welfare declines from infrastructure destruction and general equilibrium effects. Although rebuilding subsidies are effective at preventing mortgage defaults and alleviating housing shortages, they are not cost-effective. These subsidies are non-transferable, are not guaranteed, and do not provide a payout if the home is sold or foreclosed on, leading homeowners with property damage to prefer smaller cash transfers. In contrast, rebuilding infrastructure is more effective, due to complementarities with both housing consumption and firm production.

Household Climate Finance: Theory and Survey Data on Safe and Risky Green Assets with Johannes Beutel, Monika Piazzesi, and Martin Schneider

This paper studies sustainable investing using data from a representative survey of German households and a quantitative asset pricing model with heterogeneous investors. About a third of households have green investments worth 11% of household wealth. Green investments are currently relatively risky, with equity as the main pathway, while green bank accounts are rare. We find substantial heterogeneity in green taste for both safe and risky green assets throughout the wealth distribution, which can either increase or decrease demand for these assets. Model counterfactuals show that nonpecuniary benefits and hedging demands currently make green equity more expensive for firms. Nevertheless, the rise of sustainable investing has introduced a greenium of about 1%, as investors who are now aware of green stocks bid up their prices. Many households desire green bank accounts which could substantially increase overall green finance. Feeding treatment effects from an RCT in the survey into our model suggests that greater awareness of climate finance could also lead to a further burst in green equity investment.

Published Papers

Spending Responses to High-Frequency Shifts in Payment Timing: Evidence from the Earned Income Tax Credit with Aditya Aladangady, David Cashin, Wendy Dunn, Laura Feiveson, Paul Lengermann, Katherine Richard, and Claudia Sahm, AEJ:Economic Policy, 2023

This study explores the spending response to tax refunds for Earned Income Tax Credit recipients using a novel dataset combining transaction-based measures of retail spending with administrative IRS data on tax refunds. Our dataset allows us to exploit variation in the timing of EITC refunds, including changes related to the 2017 PATH Act, along with cross-state differences in refund magnitudes to identify spending responses. Results show EITC recipients spend about 0.30 per refund dollar ($1,150 for the average refund) within just two weeks of issuance, suggesting stimulus targeted at this population may provide a quick boost to aggregate demand.

Re-measuring Gentrification with devin michelle bunten and Benjamin Preis, Urban Studies, 2023

We develop an expectations-based measure of gentrification. Property values today incorporate market participants' expectations of the neighbourhood's future. We contrast this with present-oriented variables like demographics. To operationalise the signal implicit in property values, we contrast the percentile rank of a neighbourhood's average house price to that of its average income, relative to its metropolitan area. We take as our signal of gentrification the rise of a neighbourhood's house value percentile above its income percentile. We show that a gap between the house value and income percentiles predicts future income growth. We further validate our metric against existing approaches to identify gentrification, finding that it aligns meaningfully with qualitative analyses built on local insight. Compared to existing quantitative approaches, we obtain similar results but usually observe them in earlier years and with more parsimonious data. Our approach has several advantages: conceptual simplicity, communicative flexibility with graphical and map forms and availability for small geographies on an annual basis with minimal lag.

From Transactions Data to Economic Statistics: Constructing Real-time, High-frequency, Geographic Measures of Consumer Spending with Aladangady, Aditya, Wendy Dunn, Laura Feiveson, Paul Lengermann, and Claudia Sahm *NBER CRIW Volume: Big Data for 21st Century Economic Statistics*, 2022, edited by Katharine G. Abraham, Ron S. Jarmin, Brian Moyer, and Matthew D. Shapiro

Timely access to information on consumer spending is important to economic policymakers. The Census Bureau's Monthly Retail Trade Survey is a primary source for monitoring spending nationally

but publication delays and subsequent revisions diminish its usefulness for real-time analysis, and do not allow for analysis of localized or short-lived shocks. Expanding the survey to include higher frequencies or subnational detail would be costly and increase respondent burden. We develop new estimates of retail spending that are both timely and granular. We use anonymized transaction data from First Data (now Fiserv), an electronic payments technology company, to construct daily spending estimates at retailers and restaurants for detailed geographies. Our estimates are available a few days after the transactions occur, and span from 2010 to the present. When aggregated to the national level and monthly frequency, the time-series pattern of our estimates is similar to the official Census statistics. We present two applications of these new data. First, our estimates allowed the Federal Reserve to monitor spending in real time during the 2019 government shutdown, when Census data were delayed. Second, we leveraged the timely geographic detail to estimate the effects on spending of Hurricanes Harvey and Irma in 2017.

Works in Progress

Migrant Networks and Climate Change with Emmanuella Kyei Manu

Migration as an adaptation strategy to climate change depends on whether people move in response to climate shocks and where they choose to relocate. Using global migration and temperature data, we document that migration flows are persistent and related to migrant stocks. We find limited evidence of changes in migration patterns in response to global warming to date. We formalize the insurance value of migration in a model that incorporates climate-induced endowment shocks and migrant networks. Our results show that the insurance value of migration depends on the correlation between existing migrant networks and the spatial covariance of climate shocks. A simple quantification exercise reveals that migration offers limited insurance against climate risks, particularly for low-income, climate-exposed countries, because their migrant networks are concentrated in nearby countries.

Awards

Ely Graduate Fellowship, Stanford Institute for Economics Policy Research, 2024

McKenna Graduate Fellowship, Stanford Institute for Economics Policy Research, 2023

Ric Weiland Graduate Fellowship, Stanford University, 2021-2023

Schultz Graduate Fellowship, Stanford Institute for Economics Policy Research, 2021

Outstanding Teaching Assistant Award, Stanford Economics Department, 2021

National Science Foundation Graduate Research Fellowship Program Honorable Mention, 2020

Mindlin Prize for Innovative Ideas in Science, Harvey Mudd College, 2016

Thomas B. Brown Research Award, Harvey Mudd College Physics Department, 2016

Honors in Physics, Harvey Mudd College Physics Department, 2016

Laspa Fellowship in Applied Mechanics, Harvey Mudd College, 2014-2016

Rojansky Writing Award, Harvey Mudd College Physics Department, 2014

Professional Experience

Research Assistant, Federal Reserve Board of Governors 2016-2018

Professional Activities

Referee for *Journal of Political Economy, Journal of Public Economics*

Teaching Experience

Programming Camp for Stanford Economics PhD Students 2022-2024

Teaching Assistant, Family and Society (Econ 144) 2024

Teaching Assistant, MBA Macroeconomics, 2023, 2024

Teaching Assistant, Environmental Economics (Econ 155) 2021

Teaching Assistant, MBA Finance, 2020

Other Publications

Physics Publications

Shifrah Aron-Dine, Gregory S. Pomrehn, Aurora Pribram-Jones, Kevin J. Laws, and Lori Bassman (2017). **First-principles investigation of structural and magnetic disorder in CuNiMnAl and CuNiMnSn Heusler alloys**. *Physical Review B*. 95 2, 024108.

Kevin J. Laws, Cody Crosby, Aarthi Sridhar, Patrick Conway, Leah S. Koloadin, Mo Zhao, *Shifrah Aron-Dine*, and Lori C. Bassman (2015). **High Entropy Brasses and Bronzes - Microstructure, Phase Evolution and Properties**. *Journal of Alloys and Compounds* 650, 949-961.

Ryan Miyakawa, Rafael Mayer, Antoine Wojdyla, Nicolas Vannier, Ian Lesser, *Shifrah Aron-Dine*, and Patrick Naulleau (2014). **Coded Aperture Detector: an Image Sensor with sub 20-nm Pixel Resolution**. *Optics Express* 22 16, 19803-19809.

FEDS Notes

High-frequency Spending Responses to the Earned Income Tax Credit with Aditya Aladangady, David Cashin, Wendy Dunn, Laura Feiveson, Paul Lengermann, Katherine Richard, and Claudia Sahm. FEDS Notes. Board of Governors of the Federal Reserve System. 2018.

The Effect of Sales-Tax Holidays on Consumer Spending with Aditya Aladangady, Wendy Dunn, Laura Feiveson, Paul Lengermann, and Claudia Sahm. FEDS Notes. Board of Governors of the Federal Reserve System, 2017.

The Effect of Hurricane Matthew on Consumer Spending, with Aditya Aladangady, Wendy Dunn, Laura Feiveson, Paul Lengermann, and Claudia Sahm. FEDS Notes. Board of Governors of the Federal Reserve System, 2016.

Personal

United States Citizen