BHAVYAA SHARMA

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Current Position

Institute for Law and Finance, Goethe University, Frankfurt
Junior Fellow
Center for Analytical Finance, UC Santa Cruz
Research Affiliate

Education

University of California, Santa Cruz
Ph.D. Economics, June 2025
Indira Gandhi Institute of Development Research, Mumbai, India
M.S. Economics, 2015
Miranda House, University of Delhi
B.A. Economics, Honors, 2013

Fields

Financial Economics, Macroeconomics, Climate Finance

References

Dr. Galina Hale
gbhale@ucsc.edu

Dr. Grace Weishi Gu
grace.gu@ucsc.edu

Dr. Brenda Samaniego de la Parra
bsamanie@ucsc.edu

Dr. Alonso Villacorta
avillaco@ucsc.edu

Research and Professional Experience

Short-Term Consultant, World Bank, 2024
Thomas J. Sargent Dissertation Fellow, Federal Reserve Bank of San Francisco, 2023
Ph.D. Intern, Federal Reserve Bank of New York, 2023
CSWEP Dissertation Fellow, Board of Governors of The Federal Reserve, 2022
Graduate Student Researcher, UCSC, 2020 – 2024
Research Fellow, National Institute of Public Finance and Policy, New Delhi, 2017 - 2019
Experienced Associate, PricewaterhouseCoopers - U.S. (Advisory), 2015 - 2016
Graduate Intern, Department of Economic and Policy Research, Reserve Bank of India, 2014
Research Fellow, Innovation Project Scheme, University of Delhi, 2012 - 2013
Undergraduate Intern, Reserve Bank of India, Chandigarh, 2012

Publications

God is in the Rain: The Impact of Rainfall-Induced Early Social Distancing on Covid-19 Outbreaks (with Dr. Ajay Shenoy, Guanghong Xu, Rolly Kapoor, Haedong Rho, and Kinpritma Sangha), Journal of Health Economics, 2021.

Government Expenditure in India: Composition and Multipliers (with Dr. Ashima Goyal), Journal of Quantitative Economics (Springer Publications), 2018.

Working Papers

Information about climate transition risk and bank lending (Job Market Paper)
Do banks price their borrowers' exposure to climate transition risk? I find that in the E.U., firms negatively exposed to climate transition risk face higher lending rates by banks specialized in their borrowers' industry. However, I also find evidence of lower lending rates to more exposed firms after an oil supply news shock relevant for energy-intensive firms, especially during periods of high aggregate financial stress. Interpreting bank specialization as a source of heterogeneity in costs of private information acquisition, I develop a bank lending model with competitive lending, costly information acquisition, and non-Bayesian belief updating. Because of screening, specialized banks can better distinguish between borrowers' risk exposure, resulting in relatively higher lending rates to more exposed firms. However, this interest rate differential decreases in favor of more exposed borrowers when banks underreact to relevant public information. This effect is more pronounced during periods of poor borrower quality or increased financial stress. These results imply that lowering banks' cost of acquiring firm-level transition-risk exposure information is crucial to reduce green firms' financing costs, even when there is high quality public information and communication about decarbonization.

How climate-awake are financial markets? (with Galina Hale)
As physical manifestations of climate change become more apparent, are we to expect massive asset repricing and financial destabilization? The answer to this question crucially depends on whether climate risks are priced-in already in different asset classes. Climate-related events are unique in that they are drawn from a distribution that shifts and becomes more disperse over time along an uncertain trend, making belief formation a crucial component of asset pricing. We simulate the response of asset prices to changes in the arrival rate of climate-related disasters in the context of the rare events asset pricing framework based on Gabaix (2012), in which we allow for varying degrees of climate optimism and belief rigidity. We quantify "fully priced in" response in various structures of subjective belief formation. We survey the empirical literature on the pricing of physical climate risk in equity and fixed income markets to evaluate what belief formation structures may be consistent with assumption of fully priced-in beliefs. While there is no consensus in empirical literature, our preliminary results show that in recent years, asset price responses to disasters documented in the literature are more consistent with low climate optimism and relatively low belief rigidity.

How Much is a Formal Job Worth? Evidence from Mexico (with Brenda Samaniego de la Parra)
We estimate the value of a formal job in Mexico. For the median household, the value ranges from MXN$610 and MXN$860 pesos (USD$30-42) per month. This valuation encompasses the various social benefits available to formal employees, differences in job stability and career prospects, and any other attributes that make a formal job desirable. We obtain this estimate using a partial equilibrium model of joint labor supply with informal and formal contracts and search frictions estimated using simulated method of moments. We validate our structural estimates for the value of a formal job using an employer-employee-household matched panel dataset and exogenous variation in access to a formal job from over 300,000 work-site inspections. Model and reduced-form approaches yield consistent changes in reservation wages of a spouse after a change in their partner's formal job probability and similar values of a formal job based on compensating income differential estimates. We find substantial heterogeneity in the value of formal employment across income deciles.

Firm Emissions and Credit Allocation (with Galina Hale, Grace Weishi Gu, and Jinhong Wu)
Do banks help or hamper green transition? To answer this question, we analyze the dynamics of bank lending to firms in the US, EU, and separately Denmark in relation to the borrowers' emissions of CO2. We evaluate the allocation of bank loans across industries and within industries across firms, allowing for heterogeneity of firm emissions and changes in these emissions. To facilitate green transition, bank lending needs to flow to greener and greening firms, but not out of high-emission industries that need funding to transition to cleaner production methods. Using syndicated loan data, we find that for US borrowers, bank lending was likely hampering green transition, while in the EU bank lending is more likely to facilitate it. Zooming in on Denmark, for which we have data on the full universe of firms and banks, we find more significant credit reallocation to greener firms, especially within industries. However, the reallocation of funds to green firms is, to a large extent, a byproduct of green firms becoming bigger. We do not find any evidence consistent with banks active stewardship of green transition.

Papers in Progress

Large disasters and changes in climate risk perceptions: Evidence from the United States
This paper examines the nature of belief updates about individuals' exposure to damages from climate change. I use county-level survey data on beliefs related to potential damages from climate risk and evaluate how the survey responses change at the county level after a 'billion-dollar' disaster in the state. Controlling for county demographics, income, educational attainment levels, political affiliation, and long-term temperature and precipitation anomalies, I find evidence for prior conformity. In counties with a high average risk perception, a state-level large disaster is associated with a higher risk perception. However, the post-disaster beliefs are still strongly anchored to those recorded a decade before the disaster occurred. The relevance of large disasters in subjective expectation formation is further indicated by the evidence that monetary damages from crop and property loss are not strongly associated with belief updates. These results highlight the information channels that individuals pay attention to while forming expectations about climate change, which has important implications for household adaptation to climate risks.

Climate Adaptation Gap: Socioeconomic Determinants of Household Climate Preparedness (with Galina Hale and Ted Liu)
We examine key socioeconomic factors that influence climate resilience efforts of households. Combining FEMA's National Household Survey with other data sources, we analyze how access to information, prior experience with disasters, financial stability, and insurance availability affect

household preparedness levels. We find that access to information about disaster preparedness, personal disaster experience, and access to homeowner/renter insurance and flood insurance are associated with higher subjective confidence in preparedness and the likelihood of taking resilience actions, including building a financial buffer for emergency events. We also find evidence for public climate resilience projects associated with more resilience actions for middle-income individuals, highlighting the interplay between ex-ante public adaptation and resilience investments and private adaptation behavior. We supplement this empirical analysis with a qualitative study involving nine community organizations in California. Our findings underscore the importance of targeted financial incentives and policy interventions that support rebuilding and resilience among vulnerable populations.

Currency Risk and Global Banks (with Grace Weishi Gu and Isha Agarwal)

Political Misallocation of Electricity in India (with Meera Mahadevan and Ajay Shenoy)

Grants, Fellowships and Awards

University of California President's Lindau Nobel Meetings in Economic Sciences Fellow, 2025
Coastal Climate Resilience Pilot Funding Grant (PI - Dr. Galina Hale; Co-investigator - Ted Liu), UCSC, 2023
Milam-McGinty-Kaun Teaching Excellence Award, UCSC, 2023
Graduate Division Fall Travel Grant, UCSC, 2023
Economics Department Travel Grant, UCSC, 2023
Hammett Fellowship, Environmental Sciences Department, UCSC, 2022
Graduate Student Grant, Dolores Huerta Research Center for the Americas, UCSC, 2022
Dissertation Research Grant, Economics Department, UCSC, 2022
TA Quarterly Award, Economics Department, UCSC, 2022
Regents Fellowship, Department of Economics, UCSC, 2019
The President's Gold Medal for highest CGPA in M.S. Economics, IGIDR, 2015
Smt. Mallan Devi Bhalla Award for Best Student in First Year Economics, Miranda House (University of Delhi), 2011

Seminars and Conferences

2025: IBEFA-ASSA Meeting, San Francisco, University of Houston - Bauer College of Business, Federal Reserve Board, BIS Research for Americas Office, Future of Financial Information Conference, Paris, IBEFA Summer Meeting, Sustainable Financial Intermediation Conference, Applied Macroeconomics in a Changing World Conference, Macroeconomic and Financial Aspects of Climate Change Conference, 14th EBA Policy Workshop, LawFin Center – Goethe University
2024: ASSA meeting, San Antonio; Macroeconomics Workshop, UCSC; UCSC CAFIN Financial Market Solutions for Funding Green Transition and Climate Resilience Conference; NYU NY Fed Climate Finance Conference Poster Session; IBEFA Summer Meeting, Seattle; NAS Workshop on Macroeconomic Implications of Decarbonization Poster Session; 4th FINPRO Conference
2023: IPWSD, Columbia University; Federal Reserve Bank of New York; Federal Reserve Bank of San Francisco; Western Economics Association International Annual Conference, San Diego; Southern Economics Association, New Orleans; Macroeconomics Workshop, UCSC
2022: Board of Governors of The Federal Reserve, Washington D.C.; LACEA-LAMES, Lima; Macroeconomics Workshop, UCSC; NBER Behavioral Macroeconomics Bootcamp (Participant)
2020: Discussant, Emerging Markets Finance Conference
2015: Tenth Annual International Conference on Public Policy and Management, Indian Institute of Management, Bangalore

Teaching

Instructor

Econ 294 A (M.S. R Programming), UCSC, 2023; 2024
Programming in R for MSQE students, ISI (Delhi), 2018

Teaching Assistant

M.S. APEF Capstone TA, UCSC, 2024
Econ 1 (Introductory Microeconomics), UCSC, 2024
Econ 233 (M.S. Finance), UCSC, 2021; 2022
Econ 202 (M.S. Macroeconomics), UCSC, 2022
Econ 131 (International Financial Management), UCSC, 2021; 2022
Econ 149 (Economies of East and South-East Asia), UCSC, 2021
Econ 113 (Introductory Econometrics), UCSC, 2020
COWL 52 (Personal Finance), UCSC, 2020; 2021

Econ 197 (Economic Rhetoric), UCSC, 2020
Econ 2 (Introductory Macroeconomics), UCSC, 2020

University and Public Service

Science Internship Program, Mentor, UCSC, 2024
Grad School Mentor for Undergraduate Students, GradPath, UCSC, 2023
Graduate Student Representative, Strategic Planning Committee on Climate Change, UCSC, 2022
Wildfire Shelter Volunteer, Volunteer Center of Santa Cruz County, Aug 2020
Contributor, Punjab Working Group Report, 2020
Weekend Primary and College Education Volunteer, Udaan India Foundation, 2015 - 2016

Languages

English (Fluent), Hindi (Native), German (Beginner)

Software skills

R, Matlab, Stata, Python