Parth Chawla

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RESEARCH AREAS

Development Economics, Firm Productivity, Trade, Migration

ACADEMIC EXPERIENCE

2021 – 2026   Ph.D. in Agricultural & Resource Economics, University of California, Davis

2018 – 2019   M.Sc. in Economics, Trinity College Dublin

2014 – 2017   B.Sc. in Physics, Royal Holloway, University of London

WORKING PAPERS

Chawla, P. 2026. "Local Human Capital Development and Firm Resilience: Evidence from the 1997 Indonesian Crisis." Working paper. Available at SSRN. (Job Market Paper)

Summary: Do returns to human capital rise during crises? This paper examines whether human capital accumulation created by Indonesia's INPRES school construction program in the 1970s improved firm resilience in the 1997 Asian Financial Crisis. I find that each additional school per 1,000 children increased real labor productivity and output during the crisis period by 2.7 and 3.3 percent, respectively. INPRES induced changes in the local pre-crisis workforce composition that shifted workers toward more skill-intensive production work. I argue that these skills became particularly valuable during the crisis, when firms faced disruptions. Consistent with this mechanism, INPRES had larger effects in sectors with higher import intensity, where adjustment demands were greater. I show that the local abundance of skilled workers in high-INPRES districts kept wages relatively lower, enabling plants to retain more of them when they were most valuable.

PUBLICATIONS

Barriga-Cabanillas, O., **Chawla, P.**, Redaelli, S. and Yoshida, N. 2025. "Estimating Poverty in Afghanistan Without Consumption Data: An Imputation-Based Approach." *The Journal of Development Studies*, 1–22.

Summary: This paper uses a machine learning-based survey-to-survey imputation method to estimate poverty in Afghanistan following the Taliban's return to power in August 2021. A model trained on the 2019/20 Expenditure and Labor Force Survey is used to predict household consumption in the 2023 Afghanistan Welfare Monitoring Survey, a phone survey drawn from the same sampling frame. The results show that 48.3 percent of the population was poor as of April-June 2023, a 4 percentage point decline since the same months in 2020. This decline was driven by falling rural poverty, while urban poverty remained unchanged.

RESEARCH IN PROGRESS

"Predicting Mexico-to-US Migration with Machine Learning for Counterfactual Analysis," with J. Edward Taylor

Summary: Reliable tools to predict migration are increasingly important amid rising climate and economic risks, and demographic shifts. Tree-based machine learning models can uncover complex, nonlinear relationships that conventional models often miss and can be used to simulate responses to shocks. Migration data are costly to collect, so models must perform well with readily available data. We first train a LightGBM model on an ideal dataset, a panel

tracking the employment locations of 10,739 individuals from 1980 to 2007, and achieve high predictive accuracy. Using this as a benchmark, we then train a model on just four years of data without migration histories. By adding public weather data, this restricted model approaches benchmark performance (within 0.1 F1 score). Counterfactual shocks show that a 10% rise in temperature reduces migration by 13% the following year, a 10% increase in age lowers it by 17%, and a 10% drop in income by 18%.

"Are Technologies Appropriate for Developing Country Skills? Evidence from Vietnamese Manufacturing," with Francesca de Nicola and Jonathan Timmis (World Bank East Asia Pacific)

Summary: We test the "inappropriate technology" hypothesis in Vietnam by examining whether productivity gains from imported technologies adopted by manufacturing firms are lower when those technologies are less suited to local factor endowments. We use a novel firm-level panel from 2009 to 2017 that identifies the country of origin of each firm's primary manufacturing technology and define "inappropriateness" as the difference between a firm's skill intensity and the skill abundance of the country from which it sources technology. Exploiting large-scale tariff liberalization during this period, and linking technology product descriptions to tariff schedules using an LLM-based approach, we show a strong and statistically significant relationship between tariff reductions and greater skill mismatch. This effect is driven by firms shifting toward sourcing technologies from more skill-abundant countries than their own workforce: a 10 percentage-point decline in tariff exposure increases positive mismatch by about 0.03 standard deviations. We then instrument mismatch to estimate how productivity gains vary with technology appropriateness.

"Firm Networks, Risk Sharing and Resilience to Shocks Among Small Firms in Tanzania," with Daniel Putman and Jess Rudder

Summary: We examine the role of formal and informal networks among small firms in helping them cope with shocks. Using novel survey data that we collected in rural Tanzania, we estimate complete firm networks and analyze how network characteristics, such as centrality and clustering, shape firms' exposure to shocks and their responses, including access to credit, performance, productivity, and entry and exit.

"Financial Literacy and Small Firm Performance in Uganda," with Ester Agasha, Andrew Hobbs, Travis Lybbert, Nathalie Nyanga, and Bruce Wydick

"Local Economic Impacts of Cash Transfers to Refugees and Asylum Seekers in Mexico, Mauritania, and Moldova," with Justin Kagin and J. Edward Taylor

PROFESSIONAL EXPERIENCE

2023 – Present **Consultant, The World Bank**, Washington, D.C.

- Led analytical work, including coauthored research and a flagship policy report with the East Asia and Pacific Chief Economist's Office, a policy note on firm productivity for the Malaysian government, and prior work with the Poverty and Equity Global Practice.
- Recent projects include ongoing coauthored research on technology adoption and productivity in Vietnamese manufacturing firms, and the *Firm Foundations of Growth* report analyzing the impact of digitalization, skills, non-tariff measures, and pandemic resilience on total factor productivity (TFP) and other firm outcomes in the EAP region.
- These analyses use financial statement and survey data from hundreds of thousands of firms across 7 Asian countries, labor force surveys, input-output tables, trade and tariff data, and firm-level production function and misallocation analysis.
- Past projects: Poverty projections in Afghanistan using machine learning–based imputation; economic activity measurement in Afghanistan using satellite nightlights data.

2023 – 2024 **Graduate Student Researcher, UC Davis** (Prof. J. Edward Taylor)

- Led analysis estimating the local economic impacts of refugee cash transfer programs in Mexico, Mauritania, and Moldova, in collaboration with UNHCR and the American

Institutes for Research.

- Developed a dashboard for local governments to monitor the local economic impacts of spending in 4 protected areas across Sub-Saharan Africa.

2022	**Research Intern, United Nations Development Programme**, New York, NY
	- Contributed to the 2021/22 UNDP Human Development Report by conducting data analysis and creating data visualizations for 2 sections of the report.
2022	**Research Assistant, University of Michigan** (Prof. Yusuf Neggers)
	- Conducted data analysis for a research paper, including scraping millions of rows of publicly available administrative data using Python, automating workflows with AWS, and managing storage in MySQL.
2019 – 2021	**Research Associate, Evidence for Policy Design (Harvard Kennedy School)**
	- Executed 2 large-scale randomized control trials (RCTs) across 3 Indian states in collaboration with US-based economists, managing a field team of 15 members.
	- Collaborated with government officials to align project objectives and designed survey questionnaires for over 1,000 officials.
	- Built Python data pipelines to scrape and process over 50 million rows of public data from government websites and APIs.
	- Conducted econometric analyses, produced data visualizations, and prepared reports.
2018	**Economics Intern, Koan Advisory**, Delhi, India

TECHNICAL SKILLS

Programming: Python (pandas, scikit-learn), R, Stata, SQL/MySQL

Tools and Platforms: Git, Unix, Markdown, R Shiny, AWS (EC2, RDS), SurveyCTO

Statistical Methods: Machine Learning (Linear/Logistic Regression, Random Forests, Gradient Boosting, LightGBM), Causal Inference (DiD, RDD, IV, PSM, SC), Panel Data Econometrics

GRANTS, FELLOWSHIPS AND AWARDS

2024 – 2026	Internal Grants (3 awards, $6,000), UC Davis
2024	Giannini Dissertation Fellowship ($21,500 stipend)
2024	Giannini Foundation Mini-Grant ($20,000), with J. Edward Taylor
2024	Henry A. Jastro Graduate Research Award ($3,000)
2021 – 2022	Provost's Fellowship ($25,000 stipend), UC Davis
2014	International Excellence Scholarship (50% tuition waiver), Royal Holloway

PRESENTATIONS

| 2025 | AAEA & WAEA Joint Annual Meeting (Best Poster Award Recipient), Japan Economic Policy Association, World Bank-LSMS Conference "Better Data for Better Jobs and Lives", UC Davis Development Workshop, Giannini Student Research Conference |

TEACHING EXPERIENCE

Main Instructor: Economic Development (UC Davis, 2024)

TA: Operations Research & Management Science, Economic Development, Econometric Methods, Agricultural Labor, Intermediate Microeconomics, Math & Statistics for Economics

Teaching Fellow: Math Foundations Course (Ashoka University, 2018)

BLOG ARTICLES

"Government Intervention in India and Taiwan Affects Global Rice Markets" (with Tzu-Hui Chen), Ag Data News (2022)

LANGUAGES

English (Native/Bilingual), Hindi (Native/Bilingual), Korean (Beginner)