

# Rimjhim Saxena

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PhD Candidate, University of Colorado Boulder  
Department of Economics · 256 UCB #414 Boulder CO 80302  
✉ [rimjhim.saxena@colorado.edu](mailto:rimjhim.saxena@colorado.edu) ☎ +1 720-955-3410 🐦 [rimjhimster](https://twitter.com/rimjhimster) 🌐 [rimjhimsaxena.github.io](https://rimjhimsaxena.github.io)

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## EDUCATION

Ph.D. Economics, University of Colorado Boulder	May 2025 (Expected)
M.A. Economics, University of Colorado Boulder	2021
M.A. Economics, Boston University	2017
M.B.A. Finance, Thapar Institute of Engineering & Technology	2014
B.E. Industrial Engineering, Thapar Institute of Engineering & Technology	2014

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## RESEARCH AND TEACHING INTERESTS

Environmental and Resource Economics, Development Economics, Labor Economics

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## WORKING PAPERS

*Barriers within Borders: Structural Transformation and Climate Change in India* (Job Market Paper)  
*Stumped by the sun, Saved by the side: The role of peer and adversarial effects in adaptation to heat*

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## PUBLICATIONS

### BOOK CHAPTER

Chatterjee, D., Lal, B., & Saxena, R. (2021). [Education: Understanding the Gender Gap in Education and Employment](#). In S. Chakravorty & N. Sircar (Eds.), *Colossus: The Anatomy of Delhi* (South Asia in the Social Sciences, pp. 273-289). Cambridge: Cambridge University Press. [doi:10.1017/9781108935654.013](https://doi.org/10.1017/9781108935654.013)

### OTHER WRITING

Arora, K., Saxena, R. (2018). [India-China Economic Relations: An Assessment](#). *South Asian Voices*, Stimson Center, Washington D.C

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## WORKS IN PROGRESS

1. *Climate Change and Mechanization of Agriculture in India* (with [Bhavya Srivastava](#))
  2. *Climate Change and Informal Insurance Networks* (with [Matthew Gordon](#))
  3. *Energy cost pass through in Indian Manufacturing firms* (with [Johannes Gálle](#))
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## TEACHING EXPERIENCE

### *University of Colorado Boulder*

<i>Instructor of Record: Natural Resource Economics (~50 students)</i>	Aug 2024 - Present
<i>Instructor of Record: Principles of Microeconomics (~200 students)</i>	Aug - Dec 2022
<i>Teaching Assistant</i>	2019 - 2024
Principles of Microeconomics (x5 semesters)	
Principles of Macroeconomics (x4 semesters)	
Environmental Economics (x2 semesters)	

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## AWARDS

Heartland Environmental and Resource Economics Workshop Travel Support, 2023  
TWEEDS workshop Travel Grant, 2023 (\$525)  
Faculty Support Fellowship, 2023 (\$515)  
Graduate School Domestic Travel Grant, 2023 (\$450)  
Graduate Award for Public Policy Research, 2022 (\$2,000)  
Reuben A. Zubrow Fellowship in Economics, 2021 (\$2,000)  
Continuing Education Teaching Fellowship, University of Colorado Boulder, 2021 (\$2,000)  
Continuing Education Teaching Fellowship, University of Colorado Boulder, 2020 (\$1,000)  
Scholarship, Department of Economics, University of Colorado Boulder, 2019 (\$10,000)

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## SEMINAR PRESENTATIONS

**2024:** 25th Annual CU Environmental and Resource Economics Workshop (*Scheduled*), Vail CO; AERE Session at Southern Economic Association Conference, Washington D.C. (*Scheduled*)  
**2023:** 18th Annual Conference on Economic Growth and Development, Indian Statistical Institute, Delhi; Heartland Environmental and Resource Economics Workshop; 2023 Berkeley/Sloan Summer School in Environmental and Energy Economics; 98th Western Economic Association Conference; AERE Summer Conference; 12th Annual Front Range Energy and Environmental Economics Camp  
**2022:** 23rd Annual CU Environmental and Resource Economics Workshop; 11th Annual Front Range Energy and Environmental Economics Camp  
**2021:** Environmental Defense Fund  
**2019:** Centre for Policy Research

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## PROFESSIONAL SERVICE

### *Association of Environmental and Resource Economists (AERE)*

<i>Organizing Committee</i> , AERE sessions at Southern Economic Conference	2024
<i>Session Chair</i> , AERE sessions at Southern Economic Conference	2024

### *University of Colorado Boulder*

<i>Organizer</i> , Economics Graduate Student Seminar	Aug 2021 - Present
<i>Host</i> , Graduate Student Panel at Graduate Student Recruitment	Spring 2024
<i>Mentor</i> , Graduate student Mentor (x2)	2021 - 2023

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## PROFESSIONAL MEMBERSHIPS

Association of Environmental and Resource Economists (AERE), Western Economic Association International (WEAI)

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## OTHER WORK EXPERIENCE

### *University of Colorado Boulder*

*Research Assistant (Dr. Taylor Jaworski)* May - July 2022

Digitized manufacturing plant opening locations in US during World War II  
Created data visualizations, and spatial equilibrium model

*Research Assistant (Dr. Francisca Antman)* May - July 2020

Antman, F. M., & Cortes, K. E. (2023). The Long-Run Impacts of Mexican American School Desegregation. *Journal of Economic Literature*, 61(3), 888-905.

### *Environmental Defense Fund*

*Pre Doctoral Fellow* June - Aug 2021

Under Office of the Chief Economist  
Collaborated with Economics, Science, Policy teams in USA and India on research on Economic impacts of Environment, and Environmental justice questions

### *University of Pennsylvania*

*Research Associate, Centre for Advanced Study of India (CASI)* 2018 - 2019

In collaboration with Centre for Policy Research (CPR), Delhi

Vaishanv, Milan (2021). [Gender, social change, and urbanisation in North India](#). *International Growth Centre Project #IND-19069*

Khosla, R., Sircar, N., & Bhardwaj, A. (2019). Energy demand transitions and climate mitigation in low-income urban households in India. *Environmental Research Letters*, 14(9), 095008.

Bhardwaj, A., Joshi, M., Khosla, R., & Dubash, N. K. (2019). More priorities, more problems? Decision-making with multiple energy, development and climate objectives. *Energy Research & Social Science*, 49, 143-157.

[Small City Dreaming Project](#), Centre for Policy Research

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## SKILLS

*Proficient*: R, Julia, Quarto Markdown, GIS Tools, L<sup>A</sup>T<sub>E</sub>X, C, C#

*Intermediate*: Python, Stata, Matlab, SQL

Languages: English (Native), Hindi (Native), Urdu, Punjabi

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## CITIZENSHIP

F1 Visa, Indian Citizen

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## REFERENCES

**Jonathan Edward Hughes (advisor)**

Department of Economics

256 UCB

Boulder, CO 80309

Email:[jonathan.e.hughes@colorado.edu](mailto:jonathan.e.hughes@colorado.edu)

**Taylor Jaworski (committee member)**

Department of Economics

256 UCB

Boulder, CO 80309

Email:[taylor.jaworski@colorado.edu](mailto:taylor.jaworski@colorado.edu)

**Daniel Kaffine (committee member)**

Department of Economics

256 UCB

Boulder, CO 80309

Email:[daniel.kaffine@colorado.edu](mailto:daniel.kaffine@colorado.edu)

**Beia Spiller (committee member)**

Transportation Program Director

Resources for the Future

Washington DC, 20036

Email:[bspiller@rff.org](mailto:bspiller@rff.org)

## WORKING PAPERS ABSTRACTS

### *Barriers within Borders: Structural Transformation and Climate Change in India (Job Market Paper)*

This paper examines how climate change is hindering structural transformation in India and the role of internal trade barriers in it. I combine local temperature effects on productivity, consumption, and labor shares with a static spatial equilibrium model to evaluate the potential for labor reallocation out of agriculture as an adaptation to climate change. Empirical findings show that temperature has a more negative impact on agricultural productivity versus manufacturing (supply-side effect), and household expenditure on food increases as incomes fall, consistent with Engel's law (demand-side effect). In equilibrium, rising temperatures increase the agricultural labor share, hindering structural transformation. Theoretically, districts in India could mitigate against the adverse effects of declining agricultural productivity through inter-district trade with less affected districts. Using a market access variable created by using development of Indian highways, I find that improved market access does not disrupt the positive relationship between temperature and agricultural labor share due to existing barriers in trade within India. These trade barriers reduce spatial competition among agricultural buyers and traps labor in low-productivity agriculture. I then use a spatial equilibrium model with internal trade barriers for counterfactual analysis which reveals that removing state-level trade barriers in Indian agriculture would increase income by 4.65% on average for each household and decrease agricultural labor share by 0.1pp on average for each district (~ 28.9 million people across India).

### *Stumped by the sun, Saved by the side: Estimating the role of peer and adversarial effects in adaptation to heat*

Literature has conclusively established that temperature has negative impact on individual's labor productivity. However we rarely work in isolation, most jobs require working with peers or against an adversary. This paper provides first estimates of the magnitude of peer and adversarial effect on individual's productivity under heat. Utilizing rich data, institutional details, and team dynamics of the sport of cricket, I find that even though temperature affects individual's productivity negatively, it doesn't have any effect on equilibrium outcomes that are affected by peers and adversaries. There could only be two explanations for this: increased peer effect under heat or a decreased adversarial effect. A further analysis reveals that peer effect increases significantly at temperature above 25C while adversarial effect has no significant difference between games played below 25C and above 25C temperature. These peer effects accrue through complementarity of skill-set among peers which creates opportunity for learning at higher temperature. This finding shows that even when workers are individually affected negatively by temperature, they can adapt in team settings through positive peer effect given complementary skills exist among peers.