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CONTACT INFORMATION

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EDUCATION

Ph.D., Economics, University of California, Riverside, 2024

M.A., Economics, University of California, Riverside, 2024

M.S., Applied Analytics, Columbia University, 2017

B.A., Economics and Mathematics, Colby College, 2015

B.A., Mathematical Science: Statistics, Colby College, 2015

FIELDS OF INTEREST

Health Economics, Labor Economics, Development Economics

JOB MARKET PAPER

"Sleep and Fatal Vehicle Crashes: Evidence from Sunset Time in the United States" ([Link](#))

Adequate sleep is critical for overall healthy functioning. Insufficient sleep has been linked to a decline in attention and cognitive function, which poses a potential risk for vehicle crashes. This paper aims to study the impact of sleep on fatal vehicle crashes. For the short-term analysis, I explored the variation in sunset times throughout the year in a specific location. By using sunset time as an instrument, I found that a one-hour delay in sunset leads to a decrease of approximately 12 minutes in weekly sleep duration. Additionally, a one-hour increase in monthly sleep leads to about a 2.4% reduction in fatalities. For the long-term analysis, I employed two different approaches. First, I utilized the geographical variation in sunset time across counties within a time zone. However, the results from this approach were not statistically significant. Second, I applied spatial regression discontinuity, focusing on the timing of sunset at a time-zone boundary. I found that there is no consistent and statistically significant effect of the later sunset side on the fatalities. This paper can help in creating a better policy solution regarding DST and clock changes, as well as designing social schedules that promote healthy sleep patterns, which are crucial for both health and productivity.

JOURNAL PUBLICATIONS

"Caste Differences in Child Growth: Disentangling Endowment and Investment Effects" ([Link](#)) with Joseph Cummins, Anaka Aiyar, Neha Agarwal, Vaishali Jain, Andrew Bergmann (***World Development*** (2024), accepted)

Using the fourth round of the Indian National Family Health Survey (NFHS- 4), and subsequently replicating our results using the fifth round (NFHS-5), we document differential child physical growth patterns across caste groups in India, demonstrating that lower caste children are born shorter and grow less quickly than children from higher-caste households. We then show that, in line with work from previous rounds of the NFHS, these differences are largely explainable by observable covariates, particularly maternal characteristics and household wealth variables. However, unlike previous research, our models reveal that the influence of these variables changes as children develop, and suggest that caste-gaps are the result of multiple channels of causal effects impacting the child growth process at different stages of development. Using age-disaggregated decomposition methods, we demonstrate that health endowment related variables largely explain birth length gaps, and that investment related variables become increasingly influential as children age. Children from low caste households thus face two margins generating height gaps as they age: a persistent endowment effect present from birth, and a post birth investment effect that exacerbates the initial deficit.

OTHER PUBLICATIONS

"The State of Work in the Inland Empire Part II: Pandemic, Polarization, Inflation, and Investment (November 2023)" (Link) with Michael Bates, Sara Bruene, Eric E. Calderon, Elvira De La Torre, Pedro Freire, Gregory B. Hutchins, KeAysia Jackson, Manisha Kapoor, Fatima Nelson, Zhuoyu Qiu, Ellen Reese, Gary Rettberg, and Beth C. Tamayose.

This report provides a snapshot of the labor market and working conditions in the Inland Empire (IE). We document how changes over the last five years, including those related to investment, inflation, and the COVID-19 pandemic, have impacted workers' employment outcomes, working conditions, and well-being. This analysis marries diverse perspectives from personal narratives from workers collected through in-depth interviews (collected in English and Spanish) with a vast array of quantitative data on labor market conditions.

"The State of Work: Transportation, Distribution, and Logistics in the Inland Empire (February 2024)" (Link) with Tejpaul Singh Bainiwal, Michael Bates, Marissa Brookes, Sara Bruene, Eric Calderon, Natalie Carranza, Elvira De La Torre, Pedro Freire, Catherine Gudis, Gregory B. Hutchins, KeAysia Jackson, Manisha Kapoor, Fatima Nelson, Zhuoyu Qiu, Ellen Reese, Gary Rettberg, Beth Tamayose, and Athena Tan.

This report offers a comprehensive exploration of the Transportation, Distribution, and Logistics (TDL) sector in Southern California's Inland Empire. This pivotal sector, integral to both national and global economies, includes transportation services, warehousing, and logistics services. Despite recent size decline, the TDL sector has shown rapid expansion over the last five years, particularly in warehousing and transportation, significantly impacting the region's employment landscape.

WORKING PAPER

"Employment and Sleep Patterns" (Link)

This paper examines how employment rates affect sleep patterns, using data from the American Time Use Survey (ATUS) and Local Area Unemployment Statistics (LAUS) from 2003 to 2022. Research suggests that while weekday sleep is countercyclical, weekend sleep is procyclical, with employed individuals sleeping more on weekends to compensate for shorter weekday sleep. The results show that a 1 percentage point increase in the employment-to-population rate reduces average sleep duration by approximately 1 minute and weekday sleep by around 2 minutes. This effect is less pronounced when using the data from 2003-2022, likely due to the increase in telework following the COVID-19 pandemic. Additionally, industries with a higher concentration of telework experience smaller decreases in sleep with increasing employment. Heterogeneous analysis shows that minorities, less educated individuals, women, and single adults face greater reductions in sleep during weekdays.

WORK IN PROGRESS

"How does Air Pollution Affect Sleep? Survey and Social Media Evidence from the United States" with Da Gong, Zhuocheng Shang

Using the Twitter data, American Time Use Survey (ATUS) on sleep, and satellite data on pollution, we aim to answer the following questions in our research: How does air pollution affect the sleep of people in the United States? Specially, we will use two instrument variables (IVs) including thermal inversion and Clean Air Act (CAA) to estimate the causal impact of pollution on sleep. With access to the Twitter data, our project aims to utilize tweets as a measure of sleep amount in the United States, and to study the impact of pollution on sleep. Furthermore, we will validate accuracy of measure from Twitter data by comparing it with survey data from the ATUS. The use of Twitter data has the potential to provide valuable insights into sleep patterns, especially in regions where sleep surveys are not readily available. It could be used in future studies to explore various topics on sleep quality and its associated health outcomes.

FELLOWSHIPS, HONORS, AND AWARDS

2024: Conference Travel Grant, GSA, UC Riverside

2023: University Teaching Certificate, Graduate Division, UC Riverside

2023: Conference Travel Grant, GSA, UC Riverside

2023: Finalist for Outstanding International Student – Graduate Award, UC Riverside

2023: Dissertation Year Fellowship, UC Riverside

2022: Conference Travel Grant, GSA, UC Riverside

2022: Finalist for Outstanding International Student – Graduate Award, UC Riverside

2019: Dean's Distinguished Fellowship, UC Riverside (2019-2024)

2015: Robert W. Pullen Award for Outstanding Research Assistant, Colby College

TEACHING

Instructor, UC Riverside

ECON102 (Intermediate Microeconomics Theory), *Summer 2022*

Teaching Assistant, UC Riverside

ECON102 (Intermediate Microeconomics Theory), *Summer 2021*

ECON104A (Intermediate Microeconomics Theory), *Summer 2021, Fall 2020*

ECON002 (Introductory to Macroeconomics Theory), *Spring 2021, Winter 2024*

ECON003 (Introductory to Microeconomics Theory), *Winter 2021*

Teaching Assistant, Colby College

EC134 (Principles of Macroeconomics), *Spring 2013*

MA253 (Linear Algebra), *Fall 2012*

RELEVANT POSITIONS HELD

Associate, Cirque Analytics, Aug 2024 – Mar 2025

Graduate Student Researcher at Inland Empire Labor and Community Center (IELCC), UC Riverside, July 2023 – Dec 2023

Graduate Student Researcher at Center of Social Innovation (CSI), UC Riverside, Oct 2022 – Mar 2023

Graduate Student Researcher to Professor Joseph Cummins, UC Riverside, Oct 2021 – June 2022

Lab Manager, Los Angeles Behavioral Economics Laboratory (LABEL), University of Southern California, Sep 2018 – June 2019

Research Assistant, Colby College, Jan 2013 – May 2015

PROFESSIONAL ACTIVITES

Presentations

2024: Eastern Economics Association (EEA) 50th Annual Conference

2023: Econ Seminar Series at California State University, Long Beach (CSULB); Applied Economics Seminar at UC Riverside; Virtual Mentoring Workshop for 3rd+ Year Women & Non-Binary PhD Students in Health Economics and Health Policy (organized by Marika Cabral and Maya Rossin-Slater, and sponsored by AEA's Committee on the Status of Women in the Economics Profession (CSWEP) and ASHEcon); Western Economic Association International (WEAI) 17th International Conference; Time Use Across the Life Course Conference at the University of Maryland; WEAI's 98th Annual Conference

2022: Pacific Conference for Development Economics (PacDev); WEAI's 97th Annual Conference; 15th Annual All-California Labor Economics Conference (ACLEC) (Poster); Global Health Economics Doctoral Student Mentorship Workshop; Graduate Student Brown Bag Seminars at UC Riverside

Referee Service
Journal of Family Research

Volunteer Service

2022-2023: Peer Mentor, International Student Peer Mentor Program (ISPMP) at UC Riverside

2022: 15th Annual All-California Labor Economics Conference (ACLEC)

TECHINICAL SKILLS

STATA, LaTex, R Studio (dyplr, ggplot, Rmarkdown, Shiny), Python(NumPy, Pandas, Matplotlib), Tableau, JMP from SAS, QGIS, ArcGIS, Microsoft, Excel (Pivot Tables and VLOOKUP), SQL (MySQL)

ADDITIONAL INFORMATION

Singer who performed at the Carnegie Hall with Colby Chamber Choir (Soprano 2)

Pianist who performed at the Colby College Recital 4 times

Volleyball player who competed in the State game with 3rd place; Certified National Athlete (Level 2, China)

Artist in Chinese brush painting (court-style); gold medal winner in the World Peace Painting Exhibition

Other personal interests: badminton, workout, meditation, kickboxing, and skiing

REFERENCES

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