

# CHINMAY LOHANI

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## EDUCATION

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### University of Pennsylvania

2020 - 2026 (*expected*)

PhD, Economics (3.94/4.00) (University Fellowship)

**Courses:** Topics in Industrial Organisation, Topics in Applied Microeconomics, Development Economics, Topics in Learning Theory, Advanced Econometrics, Bandits, Reinforcement Learning and Transfer Learning.

### London School of Economics and Political Science

2017- 2018

Master of Science, Econometrics and Mathematical Economics (Distinction) (Inlaks Scholar 2017-18)

**Courses:** Adv. Microeconomics, Adv. Macroeconomics, Econometric Analysis, Contracts & Organisation.

### Indian Institute of Science

2013 - 2017

Bachelor of Science (Research), Mathematics (First Class 6.6/8.0) (KVPY Scholar 2013-17)

**Thesis:** Discrete 1-forms on Riemann surfaces. Advisor: Subhojoy Gupta.

**Courses:** PhD-Level: Measure Theory, Topology, Commutative Algebra & Galois theory, Complex Analysis, Approximation algorithms, Game Theory and Mechanism Design.

## REFERENCES

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[Prof. Aviv Nevo](#), George A. Weiss and Lydia Bravo Weiss Professor, Wharton and UPenn Economics

[Prof. Ulrich Doraszelski](#), Department Chair/Joseph J. Aresty Professor, Wharton and UPenn Economics

[Prof. Juan Camilo Castillo](#), Assistant Professor, UPenn Economics

[Prof. Guillermo Ordonez](#), Professor, UPenn Economics

## ONGOING RESEARCH PROJECTS

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### Financing Small Business: Competition Effects and Welfare Gains from Credit Assistance [JMP]

*with Maggie Isaacson (UPenn)*

Governments operate large-scale credit assistance programs to promote the entry and survival of small firms. We study their effects on welfare and competition by analyzing the Small Business Administration's 7(a) program—the largest credit guarantee scheme in the United States. We develop and estimate a model of firm behavior with credit constraints using confidential Census microdata from the hotel industry, the program's largest recipient. Counterfactual analysis reveals that the program expands credit supply to inefficiently credit-constrained firms. Our estimates suggest that 7(a) guarantees cost \$24 million and raise total welfare in targeted hotel markets by \$54 million. Of these gains, \$31 million come from valuable firms that fail to operate without guarantees, and \$23 million from enhanced competition that lowers prices and expands markets. Subsequently, we examine alternative allocations of 7(a) awards to understand how targeting can improve program design. Directing funds to concentrated markets increases consumer welfare by promoting entry, while awards in larger, less concentrated markets primarily benefit hotels by reducing exit and borrowing costs.

(Presentations: Econometric Society European Winter Meeting (2025), Federal Statistical Research Data Center Conference (2025), Federal Reserve Bank of New York (2025), Johns Hopkins-NYU-UPenn Applied Microeconomics Conference (2024))

### Labour Market Frictions, the Organization of Labor, and Structural Change

*with Ananya Kotia (LSE) and Utkarsh Saxena (Oxford) (Supported by CEPR-STEG SRG Grant)*

We study how restrictive labor laws affected firm dynamics in India. Using novel policy variation from an amendment to the Industrial Disputes Act, we show that the introduction of restrictive labor laws significantly altered firm production and increased exit. The effects are especially pronounced in labor-intensive industries, which have historically served as key stepping stones for employment and industrial upgrading. To quantify the aggregate impact, we develop a multi-sector general equilibrium model where labor regulations create a wedge between market wages and effective labor costs in regulated sectors. We show that higher labor adjustment costs reduce aggregate output through two channels: static

misallocation of resources away from regulated sectors toward less productive unregulated activities, and dynamic effects through reduced capital accumulation. We use the model to quantify how these distortions affect sectoral reallocation and long-run growth.

## **Advertisements as Entry Barriers in Consumer Goods**

*with Eliana Sena (UPenn)*

Advertising is a central marketing tool, yet credible evidence on its direct effect on sales is limited. We evaluate an additional motive for heavy advertising in concentrated markets: entry deterrence. Using a merged dataset of U.S. television advertising and sales in the chocolate industry, we document reduced entry in markets and categories with intensive advertising. Exploiting quasi-experimental variation from coarse spatial targeting, our reduced-form estimates show that (i) the short-run impact of a brand's own ads on its sales is modest, but (ii) a 10% increase in rivals' total advertising lowers a brand's sales by 1.6%. Motivated by these facts, we develop a dynamic model of product entry and advertising that captures entry deterrence through advertisers' ability to reduce profits of potential entrants. We will estimate the model to quantify the share of advertising attributable to entry-deterrence motives and to evaluate counterfactual policies that limit advertising intensity and their welfare implications.

## **Urban Highway Removal: Evidence from Rochester**

*with Sherrie Cheng (UPenn) [Sherrie's JMP]*

This paper studies the removal of an urban highway and quantifies how this policy impacts nearby neighborhoods and residents of the city. Using a difference-in-differences event study, we find large and persistent local changes: within one year of closure, treated blocks gained 12.03 residents per block, about 12.6 percent relative to pre-removal means. Meanwhile, property values in treated areas rose by almost roughly 9.4 percent of the average treated property's assessed value. We also document suggestive evidence that highway traffic was diverted to substitute surface roads. To interpret these patterns and evaluate welfare impacts of the policy, we build a quantitative spatial model with endogenous traffic and congestion that incorporates heterogeneity by race and income. We adapt tools from the demand estimation literature to build a residential demand model which allows for rich substitution patterns and more plausible measurement of welfare. In the observed equilibrium, only 5.3 percent of residence–workplace pairs face higher expected commuting costs, yet increases are concentrated: 83 percent of residential neighborhoods have at least one destination with higher costs, with the largest penalties near the removed segment. Overall, the removal raises local amenities that capitalize into prices, while increases in commuting costs are small.

## **Reliability and Pricing in Cloud Computing**

*with James Brand (Microsoft), Juan Camilo Castillo (UPenn) and Leon Musolff (Wharton)*

To match highly volatile demand with fixed capacity, cloud computing providers employ tiered reliability—offering users discounted spot compute from which they can be evicted with little warning when capacity tightens. We study this design using proprietary data from a major cloud platform combining VM-level usage, prices, and evictions, together with a randomized price experiment. Reduced-form evidence shows: (i) demand is price-responsive, with an average own-price elasticity around -0.5; (ii) evictions persistently reduce subsequent usage by 40%, indicating a strong revealed preference for reliability; and (iii) additional aggregate usage increases eviction rates for spot workloads, consistent with congestion as the system approaches capacity. We interpret these facts through a demand model where heterogeneous users choose the level of compute reliability for each workload, while learning about eviction risk through experience. On the supply side, evictions arise endogenously as a function of usage given fixed capacity constraints. Our results quantify how spot compute exploits heterogeneity in reliability preferences to utilize idle capacity while concentrating eviction costs on users who value reliability the least.

## **Optimal Recommendation Systems in Monopolist Platforms**

*with Jaume Vives-i-Bastida (Stanford)*

We study how recommendation system quality affects product variety and welfare in digital platforms. In our model, a profit-maximizing platform balances user subscriptions against creator compensation costs. As recommendation algorithms improve, the platform can better target consumers, and generates a content portfolio catered to mainstream preferences rather than serving niche segments. Better recommendations reduce returns to variety as “insurance” against consumer mismatch, leading to decreased product diversity, increased market concentration, and welfare redistribution—mainstream consumers gain better matches while niche consumers lose access to variety. Using the universe of streams from a major music platform, we find evidence consistent with these predictions—improvements in recommendation quality coincide with declining content diversity and a stronger correlation between product popularity and centrality.

## PROFESSIONAL EXPERIENCE

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### PhD Dissertation Fellow, New York Federal Reserve

*Jun 2025 - Aug 2025*

One of four PhD fellows invited to the NY Fed to develop their dissertation and present research to economists and key policy stakeholders.

### PhD Research Intern, Microsoft Research

*Jun 2022 - Aug 2022*

*Worked with James Brand*

Undisclosed research on empirical market design. Re-designed internal code architecture to enable high resolution data retrieval for research.

### Predoctoral Fellow, Energy Policy Institute at the University of Chicago

*Aug 2018 - Aug 2020*

*Worked as a full time research assistant with Prof. Fiona Burlig.*

Managed large datasets; used various research designs (e.g. event study, IV, RDD) to carry out data analysis; created inputs for papers & presentations. Helped design RCT with information treatments, oversaw survey logistics, and presented research to the Government of India & private stakeholders.

### Intern, Center for Study of Science, Technology, Energy & Policy (C-STEP)

*Jun 2017 - Aug 2017*

Conducted literature review on designing scalable systems for predicting future water demand in agriculture.

Prepared large database for prediction exercises and validated models on this data.

Drafted a memo for the State Government of Karnataka.

### Research Assistant, Learning Theory Lab, Indian Institute of Science

*May 2014 - Apr 2015*

*Advised by Prof. Shivani Agarwal*

Studied workhorse Machine Learning methods with a focus on supervised learning: Bayesian Classifier, GMMs, Hidden Markov Models and foundations of Statistical Learning Theory.

## AWARDS, GRANTS AND SCHOLARSHIPS

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### UPenn PhD Travel Grant (\$600)

*2025*

Granted for conference travel.

### UPenn PhD Research Grant (\$2,000 x 2)

*2023-24, 2024-25*

Granted for data collection on hotel industry in US cities.

### CEPR-STEG SRG Research Grant (\$18,000)

*2022-23*

Granted for the data digitization and data build for project on change of the structure of labor in India.

### CETLI Teaching Certification

*2021-25*

Advanced training in teaching to prepare for faculty instruction.

### UPenn University Fellowship

*2020-25*

Full funding to pursue a PhD in Economics.

### Inlaks Foundation Graduate Scholarship (£39,000)

*2017-18*

Competitive (~ 10 per year across India) full-ride scholarship to study for a Master's degree abroad.

### KVPY (Young Scientist) Fellowship, Government of India

*2012-17*

Full-ride scholarship for high school, undergraduate studies & research awarded by the Government of India after qualifying through a competitive exam and an interview.

### INSPIRE Fellowship, Government of India (Declined)

*2013-17*

Full-ride college award from the Government of India for securing top 0.1% nationally in high school.

### Indian National Chemistry Olympiad (Declined)

*2013*

Top 1% merit nationally, qualified for the national stage of the International Chemistry Olympiad.

TEACHING

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|--------------------------------------------------------------------------------|-------------------------------------------------|
| <i>Econ 002</i> <b>Introduction to Macroeconomics</b> (Undergraduate) at UPenn | <i>Fall 2023, Spring 2022, 2023, 2024, 2025</i> |
| <i>Econ 705</i> <b>Introduction to Econometrics</b> (Graduate) at UPenn        | <i>Fall 2021</i>                                |
| <i>RA Boot Camp</i> <b>Advanced Stata, Spatial data in R</b> at UChicago       | <i>Aug 2019,2020</i>                            |

CONFERENCES

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|--------------------------------------------------------------------------|-----------------------|
| Econometric Society European Winter Meeting, Nicosia (Presenter)         | <i>December 2025</i>  |
| Federal Statistical Research Data Center Conference, Cornell (Presenter) | <i>September 2025</i> |
| International Industrial Organization Conference                         | <i>April 2025</i>     |
| Johns Hopkins-NYU-UPenn Applied Microeconomics Conference (Presenter)    | <i>Oct 2024</i>       |
| Dynamic Structural Econometrics Summer School and Conference             | <i>Aug 2024</i>       |

SERVICE

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|-----------------------------------------------------|----------------|
| <i>Graduate Economics Society, UPenn</i>            | <i>2022-23</i> |
| <i>Industrial Organization Lunch Seminar, UPenn</i> | <i>2023-24</i> |
| <i>Research Associate Recruitment, UChicago</i>     | <i>2019-20</i> |

TECHNICAL SKILLS

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**Advanced:** Julia, R, Stata  
**Intermediate:** Python, MATLAB, ArcGIS, Java, C++, Spark

LANGUAGE SKILLS

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English (Native), Hindi (Native)