Brandon H. Chang

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EDUCATION

Ph.D. in Economics, Expected in 05/2026
Indiana University at Bloomington - Bloomington, IN

M.A. in Economics, 05/2018
North Carolina State University - Raleigh, NC

B.A. in Economics (with Minors in Mathematics and Statistics), 05/2016
University of North Carolina at Chapel Hill - Chapel Hill, NC

RESEARCH INTERESTS

Health Economics, Applied Microeconomics, Applied Econometrics

WORKING PAPERS

"The Effect of Recreational Marijuana Legalization on Alcohol Sales" (Job Market Paper)

- Examines the impact of recreational marijuana laws (RMLs) on alcohol consumption using retail scanner data from U.S. counties between 2006 and 2019
- Using the staggered diff-in-diff method by leveraging variations in the timing of RML adoption across states, we identify a complementary relationship between marijuana legalization and alcohol sales
- In our preferred specification, our result shows that there is a 12.4% percentage points increase in quarterly alcohol sales in counties within RML states

"Do Physicians Respond to the 2016 CDC Guideline Regarding Opioids Prescribing?"

- Studies the association of the 2016 CDC guideline on prescribing opioids to NCCP patients using National Ambulatory Medical Care Survey dataset for the period 2011-2019
- Using physician-level register data and a difference-in-differences design, we find that the guideline does not significantly reduce the rate of prescribing opioids. In contrast, we find more substantial effects on decreasing the probability of prescribing opioids when either non-opioid pain medication or non-pharmacotherapy is given, as followed by the guideline

WORK IN PROGRESS

"The association between hospital value-based purchasing program (HVBP) and ADRD patients on opioid prescribing"

- Seeks to understand the role of HVBP on opioid prescribing by ADRD patients versus non-ADRD patients using Medicare dataset from a nationally representative 20% sample of all Medicare beneficiaries for the period 2006-2019
- The main empirical approach is a difference-in-differences design that exploits quasi-random variation in HVBP not only by comparing patients who are diagnosed with ADRD to those who are not but within the context of pre-opioid history and racial differences
- HVBP is associated with approximately 15% increase in the probability of an opioid being prescribed for ADRD patients compared to non-ADRD patients from the pre-implementation period to the post-implementation period

"The effect of Mandatory Access Prescription Drug Monitoring Program in Traffic Fatalities"

- Examines the impact of mandatory access prescription drug monitoring program (MAPDMP) on traffic fatalities using FARS dataset from 2004-2019
- Using the staggered diff-in-diff method by leveraging variations in MAPDMP adoption across states, we identify that MAPDMP is associated with a 5.6 percentage point decrease in traffic fatalities

EXPERIENCE

Research Assistant, 05/2023 to 05/2024
Indiana University at Bloomington - Bloomington, IN

- Utilized Medicare dataset (200GB+) to investigate the causal relationship between hospital reimbursement and physician prescribing behavior for post-discharge opioid pain medications among patients with Alzheimer's Disease and Related Dementia (ADRD) compared to non-ADRD patients
- Designed and implemented data pipelines to support analysis, collaborating with cross-functional teams to ensure seamless execution
- Developed and presented insights on the causal impact of hospital reimbursement on opioid prescription patterns, highlighting key findings and methodological approaches

Teaching Assistant, 08/2020 to present
Indiana University at Bloomington - Bloomington, IN

- Helped with grading assignments and tests, providing constructive feedback to students based on the results
- Served as a mentor to new teaching assistants, providing guidance on effective strategies for classroom management and instruction

Senior Data Analyst, 05/2018 to 08/2019
Hi Mom Enterprises, LLC - Indianapolis, IN

- Used cloud-based POS database to Analyze customer purchasing behavior and market trends to identify opportunities for price discrimination using machine learning algorithms and econometric techniques, resulting in 9% increase in revenue
- Developed and implemented a price elasticity model to estimate the impact of price changes on demand using Python (Scikit-learn)
- Collaborated with cross-functional teams to develop and execute pricing strategies

Research Assistant, 06/2011 to 06/2013
Ministry of Government Administration - Seoul, South Korea

- Simulated effects of policy changes on Korean health insurance market and government outlays
- Developed an algorithm for detecting discriminatory prescription drug cost-sharing using Korean health insurance plan data
- Led sessions and streamlined communications with government agencies, industries, and local government officials to ensure the efficient collection of relevant data and foster collaborative relationships

HONORS AND AWARDS

- Daniel J Duesterberg Fellowship, Fall 2025
- Susan C. Thrasher fellowship, Fall 2024-Spring 2025
- Irsay Fellowship, Indiana University, Spring 2024
- Teaching Assistantship, Indiana University, Fall 2020-Spring 2023
- Top-up Fellowship, Indiana University, Fall 2019-Spring 2020
- College of Arts and Sciences Graduate Fellowship, Indiana University, Fall 2019-Spring 2020

SKILLS

PROGRAMMING - R, Python, SQL, SAS
METHODS - Causal Inference, Predictive Modeling, Machine Learning, Experimental Design
FOREIGN LANGUAGES - English (Native), Korean (Native)