Jipeng (Tony) Liu

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EDUCATION

The Wharton School, University of Pennsylvania   B.S.E, *summa cum laude*
Concentration: Statistics and Finance

College of Arts and Sciences, University of Pennsylvania   B. A., *summa cum laude*
Major: Mathematical Economics (Honors)

WORKING PAPERS

Inferring Spatial Wages Distribution from Bilateral Commuting Choices in France ([under revision](#))

- *Abstract:* I present a theory-based urban model developed in Ahlfeldt et al., 2015 that relates locations and commuting choices with the spatial distribution of wages, and estimate such relationships using French commuting and socioeconomic data. My results demonstrate that model-predicted workplace wages account for 42 percent of the variation in survey-based workplace wages distribution and model-predicted residential wages account for 30 percent of the variation in survey-based residential wages distribution. I explore reasons why the model underperforms on the residential side with a quartile analysis and find its predictive power gradually increases as we go from "small" to "big" municipalities. With a simulation study, I identify the number of inbound workers as the key variable: model-predicted residential wages have a higher level of prediction power for municipalities with a larger number of inbound workers.

OTHER RESEARCH

Undergraduate Thesis: Understanding Real Economic Activity During COVID-19 Using a Dynamic Factor Model Decomposition ([PDF](#))

- *Abstract:* I study the real-time economic activity in the U.S. during the COVID-19 pandemic by comparatively evaluating the performance of three popular economic indexes. I construct my own simple economic index with four monthly indicators using a dynamic factor model estimated by the Kalman filter, and show that it tracks the past business cycles reasonably well. To enhance the interpretability of my framework, I further illustrate methods for decomposing my simple economics index into movements of underlying economic indicators. I find industrial production is the primary driver of my index during the Pandemic Recession across decomposition methods. Lastly, I repeat the decomposition for real-time vintages of my index and explore reasons why industrial production appears most important in the Kalman filter.
- Acknowledged and cited in Diebold (2021) [Real-Time Real Economic Activity Entering the Pandemic Recession](#)

Independent Study: Evaluating Early Economic Impacts of COVID-19 in India from Nightlights ([PDF](#))

- *Abstract:* Using a difference-in-differences design, I study the differential economic impacts in India at the district level under varying lockdown measures with nightlights data. My results show that districts with strict lockdown rules experienced a 14% greater reduction of nightlights radiance in April and a 24% greater reduction in May relative to districts with loose lockdown rules. Moreover, I document India's sharp transition into the lockdown period using NASA's latest daily nightlights data for a two-week window around the lockdown announcement.

PROFESSIONAL EXPERIENCE

Research Associate at Harvard Business School   *July 2021-Present*

- Work with Prof. Boris Vallee and Prof. Jonas Heese on topics about financial institutions, financial innovation, and regulatory enforcement with the Securities and Exchange Commission.

Research Assistant at Penn Climate Econometrics Research Group (part-time)   *Jan 2020-July 2021*
- Working alongside Prof. Francis X. Diebold's graduate students on various climate change research projects such as Arctic sea ice modelling and U.S. temperature evolution modelling. Tasks include data collection, exploratory data analysis, model implementation and draft edition.

Summer Research Intern to Prof. Eswar Prasad at the Brookings Institution   *May 2020-Aug 2020*
- Helped edit Prof. Prasad's new book *The Future of Money: How the Digital Revolution is Transforming Currencies and Finance*, and prepared presentations on China's monetary policy standing. Tasks included materials sourcing, data analysis, draft review etc.

Private Equity Summer Analyst, Arcadia Investment Partners   *May 2019-Aug 2019*
- Assisted in the due diligence and execution of fund investments, conducted primary industry research, and built complex financial models.

Research Assistant to Political Science Professor Yue Hou   *May 2018-Aug 2018*
- Penn Undergraduate Research Mentoring Program (PURM): studied telecom firms' innovative capacities with a case study of Huawei, sourced and cleaned 5 databases, and ran regression analysis on firms' patent numbers.

FELLOWSHIPS, AWARDS, AND GRANTS
- Lawrence R. Klein Prize for Outstanding Research in Economics (Best Undergraduate Thesis), University of Pennsylvania, 2021
- The Kanta Marwah College Alumni Society Undergraduate Research Grant, University of Pennsylvania, 2020
- Beta Gamma Sigma Honor Society, 2019
- Dean's List, University of Pennsylvania, 2017-2019
- Penn Undergraduate Research Mentoring Program Award, University of Pennsylvania, 2017

ADDITIONAL INFORMATION

Coursework: Game Theory (Graduate), Micro Theory (Graduate), Intro to Optimization (Graduate), Real Analysis I&II, Advanced Linear Algebra, Econometrics, Stochastic Process, Bayesian Inference, Data Mining, Probability

Programming Skills: R, MATLAB, Stata, LaTeX, EViews, Python, Java, ArcGIS, QGIS, Ox

Interests: Soccer (Certified Chinese National Second-Level Soccer Player, Penn Intramural Soccer Champion), Philosophy (2017 International Philosophy Olympiad China Finalist) and Chinese History