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On the job market 2026–27

Research Interests

Transportation Economics, Search and Matching, Macroeconomics, Causal Inference

Education

Ph.D. in Economics Expected 2027
Purdue University, Mitch Daniels School of Business, West Lafayette, IN

M.Sc. in Economics 2021
University of Tehran, Tehran, Iran

B.Sc. in Civil and Environmental Engineering 2018
Sharif University of Technology, Tehran, Iran

Dissertation Committee: Cathy Zhang (Chair), Mario J. Crucini, Chong Xiang

Job Market Paper

Match Now, Arrive Later: Transport Markets with Remote Search

In transport markets, carriers are often hired while still far from the cargo, and the customer waits while the carrier travels toward the cargo. I develop a dynamic spatial directed search model that allows for this remote matching. In existing models of transport markets, matching is local: a carrier must sail to a cargo before it can compete for it, sinking the cost of the trip for a cargo it may not win. With remote matching, a carrier competes from where it is for cargoes at every location, and a customer can attract carriers from every location, at the cost of waiting while they travel, so competition for carriers and for cargoes extends across locations. In a two-location example in which cargo moves in one direction only, as trips become more valuable, carriers stop sailing to the cargo before they are hired and wait to be hired remotely, even though being near the cargo remains more valuable: the cost of the time a carrier spends sailing without a contract, instead of applying, grows faster with the value of a trip than the premium of being near the cargo. Customers then hire more distant carriers and wait longer, consistent with tankers being fixed farther from the loading port when freight markets are strong. Compared with an otherwise identical model with local matching only, once trips are valuable enough, carriers are worth more at every location and the premium of being near the cargo is smaller. In an application with the Persian Gulf, Europe and Asia, I close Bab el-Mandeb, which lengthens voyages from the Gulf to Europe. The outcome depends on the value of a trip to Europe. When it is high enough that the detour is worth taking, the shock negatively affects the route to Asia, which does not use the passage: its fee rises and less cargo moves on it. When it is lower, carriers shift to the Asia route and its fee falls. Over a wide range of values, remote matching amplifies the spillover: customers shipping to Europe keep shipping by hiring distant carriers, and shipments to Asia fall more than with local matching.

Publications

Modeling the Accuracy of Traffic Crash Prediction Models

- *IATSS Research*, 2022. With Mohammad Hesam Rashidi, Soheil Keshavarz, Parham Pazari, and Amir Samimi.
- Crash forecasting enables safety planners to take appropriate actions before casualty or loss occurs. Identifying and analyzing the attributes influencing forecasting accuracy is of great importance in road crash forecasting. This study aims to model the forecasting accuracy of 31 provinces using their macroeconomic variables and road traffic indicators. Iran's road crashes throughout 2011–2018 are calibrated and cross-validated using the Holt-Winters (HW) forecasting method. The sensitivity of crash forecast reliability is studied by a regression model. The results suggested that the root mean square error (RMSE) of crash prediction increased among the provinces with higher and more variant average monthly crashes. On the contrary, the accuracy of crash prediction improved in provinces with higher per capita GDP, and higher traffic exposure. A 1% increase in crash variability, average historical crash count, GDP per capita, and traffic exposure, respectively, resulted in a 0.65%, 0.52%, −0.38%, and −0.13% change in the RMSE of forecasting. The addition of traffic exposure and macroeconomic factors significantly enhanced the model fit and improved the adjusted R-squared by 14% compared to the reduced model that only used the historical average and variability of crash count as the independent variables. The findings of this research suggest planners and policymakers should consider the notable influence of macroeconomic factors and traffic indicators on the crash forecasting accuracy.

Working Papers

When Outside Options Shape the Labor Market: A Directed Search Perspective

- This paper studies how differences in outside options across workers affect wages, firm entry, and job allocation in the labor market. I develop a directed search model with two types of workers—skilled and unskilled—and two types of firms—high-tech and low-tech. Only skilled workers have outside options, such as unemployment benefits or opportunities in other regions, creating an asymmetry between worker groups. The model extends Shi (2002) by allowing for outside options and by relaxing the assumption that high-tech firms hiring skilled workers are always more profitable. These changes generate several possible equilibrium outcomes that depend on the value of skilled workers' outside options and their share in the population. The results show that stronger outside options raise posted wages for skilled workers but can reduce high-tech firm entry. As fewer high-tech jobs are created, skilled workers' expected wages may fall, and unskilled workers are indirectly affected through changes in firm composition and wage competition. Overall, the paper shows that while better outside options make workers more selective, they can also discourage firm entry and lower overall wage opportunities in the market.

The Heterogeneous Effects of Exogenous Shocks on Public Transportation Demand

- With Kowsar Yousefi and Amir Samimi.
- This study evaluates the impact of the gas price hike and the COVID-19 pandemic on subway usage in 2019 in the Tehran and Alborz provinces. The hike was about 89% and increased subway usage, while the COVID-19 pandemic reduced it. Access to exact hourly transactions over a year, we utilize an event study methodology to estimate the cross-price elasticity and the COVID-19 pandemic's effect. Results show that subway usage increased by about 3.9 percent due to raised gas prices, so the calculated cross-price elasticity will be about 0.044, and in hindsight, subway usage decreased by about 42.6 percent due to the COVID-19 pandemic. Furthermore, this research shows that the cross-price elasticity is higher when the share of the morning entries—commuted trips—increases, whereas the COVID-19 pandemic's impact is more potent as the share of noncommuted trips increases. Last but not least, the results show that the calculated cross-price elasticity tends to decrease, and the drop caused by COVID-19 tends to be more influential as we move toward wealthier regions. These results indicate that the impoverished

groups are more prone to any change in prices, plus they cannot protect themselves against unpleasant circumstances such as a life-threatening pandemic.

Conference Presentations

- MEA 90th Annual Meetings, Chicago, IL — March 2026

Additional Training

- Estimation of Structural Models with Conditional Choice Probabilities, Notre Dame, IN — Summer 2025
- 14th Annual Research Design for Causal Inference, Northwestern University, IL — Summer 2025

Teaching Experience

ECON 252 Principles of Macroeconomics (Undergraduate) — Fall 2025
Instructor — Purdue University

ECON 252 Principles of Macroeconomics (Undergraduate) — Summer 2025
Instructor — Purdue University

Intermediate Macroeconomics (Undergraduate) — Fall 2025
Teaching Assistant to Prof. Cathy Zhang — Purdue University

Macroeconomics (PhD) — Fall 2023
Teaching Assistant to Prof. Seunghoon Na — Purdue University

Econometrics (Graduate) — 2019 – 2021
TA to Profs. Kowsar Yousefi, Atiyeh Vahidmanesh, and Alireza Oryoie — University of Tehran

Game Theory (Graduate) — Fall 2019
Teaching Assistant to Prof. Ghahreman Abdoli — University of Tehran

Econometrics in Transportation (Graduate) — 2020 – 2021
Teaching Assistant to Prof. Amir Samimi — Sharif University of Technology

Fellowships and Awards

- Bilsland Dissertation Fellowship, Purdue University — 2026–27
- Outstanding Teaching Award (ECON 252), Purdue University — Fall 2025
- Distinguished Teaching Award (ECON 252), Purdue University — Summer 2025

Service

- Economics Senator, Business Doctoral Students Association, Purdue University

Programming and Data Skills

Python, R, STATA, MATLAB, Claude Code

Structural modeling, numerical equilibrium computation, simulation-based methods.

Languages

Farsi (Native), English (Fluent)

References

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