

# Alireza Marahel

Economics Ph.D. Candidate

## CONTACT INFORMATION

Department of Economics  
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## EDUCATION

### Doctor of Philosophy, Economics

Indiana University, *Bloomington, IN, USA*

2018 - 2024

(Expected Graduation Date: May 2024)

### Master of Arts, Economics

Indiana University, *Bloomington, IN, USA*

2018 - 2021

### Bachelor of Science, Mechanical Engineering, (with Minor in Economics)

Sharif University of Technology, *Tehran, Iran*

2013 - 2018

## RESEARCH

**Research Interests:** Quantitative Economics, Climate Policy, Financial Econometrics, Machine Learning

**Job Market Paper:** "Evaluating Alternative Designs for Carbon Border Adjustment Mechanisms" Draft: October 2023

*Abstract:* This paper examines the Carbon Border Adjustment Mechanism (CBAM) as a potential tool to mitigate carbon leakage, with its design varying based on the inclusion of export subsidies and discrimination across trading partners. To this end, I adopt a quantitative multi-country, multi-industry trade model with climate externalities and abatement. I provide a novel theoretical decomposition of the welfare effects associated with carbon pricing in open economies, underscoring the incidence of the home country's carbon tax on foreign residents as a vital welfare channel. The welfare decomposition reveals ambiguous welfare effects when export subsidies are incorporated in the CBAM, as they mitigate leakage but reduce the incidence of home's carbon tax on foreign residents. The model is then mapped to data to evaluate these trade-offs quantitatively for the European Union. I find that non-discriminatory EU border adjustments lead to a Pareto improvement only if they exclude export subsidies, resulting in a 36 million tonnes reduction in carbon leakage. On the other hand, discriminatory EU border adjustments are Pareto improving if they feature export subsidies in addition to import tariffs, yielding a 130 million tonnes reduction in leakage. These results provide a possible justification for the current design of the EU CBAM.

### Ongoing Research:

"Panel Regression with Endogenous Regime Switching", with Yoosoon Chang and Joon Y. Park  
*Working Paper*

"On the Effectiveness of LSTM Models in Predicting Inflation Rates", with Yoosoon Chang and Joon Y. Park  
*Work in Progress*

### Publications:

"Revenue Mobilization for a Resilient and Inclusive Recovery in the Middle East and Central Asia" 2022  
*In Collaboration With the Fiscal Policy Group, Middle East and Central Asia Department, International Monetary Fund*

## HONORS AND AWARDS

McKinney Climate Fellowship, *Environmental Resilience Institute* 2023

Doctoral Assistantship, *IU Department of Economics* 2019 - 2023

College Graduate Fellowship recipient, *IU College of Arts and Sciences* 2018 - 2019

Top-Up Fellowship recipient, *IU College of Arts and Sciences* 2018 - 2019

Ranked Top 0.1% in Iran's Physics and Mathematics Nation-wide Universities Entrance Exam  
(61st among approximately 250k applicants) 2013

## EMPLOYMENT EXPERIENCE

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McKinney Climate Fellow, Office of Sustainability *City of Indianapolis* 2023  
(Indianapolis, IN, U.S.A.)

International Monetary Fund (IMF) Fund Internship Program, *International Monetary Fund* 2021  
(Washington D.C., U.S.A.)

Research Assistant for Professor Chang, Department of Economics, *Indiana University* 2020  
(Bloomington, IN, U.S.A.)

## TEACHING EXPERIENCE

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Associate Instructor, ECON-E 370 (Statistical Analysis for Business and Economics) 8 Semesters  
*Indiana University*

Teaching Assistant, ECON-B 251 (Fundamentals of Economics I) Fall 2023  
*Indiana University*

Teaching Assistant, ECON-E 211 (Applied Principles of Microeconomics: Creative Commerce) Fall 2023  
*Indiana University*

Teaching Assistant, ECON-E 370 (Statistical Analysis for Business and Economics) Spring 2023, Summer 2020  
*Indiana University*

Teaching Assistant, Introduction to Macroeconomics Spring 2017  
*Sharif University of Technology*

Teaching Assistant, Introduction to Microeconomics Fall 2017  
*Sharif University of Technology*

## PRESENTATIONS

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IMF Middle East and Central Asia Department Virtual Discussion Forum, *International Monetary Fund* 2021

IU Trade Talk Seminar Series, *Indiana University* 2021

Hoosier Economics Conference, *Indiana University* 2021

## OTHER INFORMATION

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Coding: Python (Tensorflow, SciKit-Learn), MATLAB, R, Stata, Unix, SQL, Slurm

Language : English (fluent), Farsi (native)

## REFERENCES

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*Department of Economics, Indiana University Bloomington*

Professor Joon Y. Park

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Professor Yoosoon Chang

Email: yoosoon@iu.edu

Phone: (812) 855-8035

Professor Ahmad Lashkaripour

Email: alashkar@iu.edu

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Professor Christian Matthes

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