Aspen Underwood

Ph.D. Candidate (ABD)
John E. Walker Department of Economics
Clemson University
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Education

Doctorate of Philosophy in Economics — May 2022
Clemson University — Clemson, SC
Fields: Industrial Organization, Environmental Economics, and Financial Economics
Committee: Babur De los Santos, Matthew Lewis, Andrew Hanssen, Jorge Garcia

Master of Arts in Economics — December 2021
Clemson University — Clemson, SC

Bachelor of Science in Business Administration in Economics — May 2016
Bachelor of Art in Music — May 2016
Colorado State University Pueblo — Pueblo, CO

Teaching Experience

Clemson University — August 2019- May 2020
Graduate Instructor of Record for 'Principles of Macroeconomics' (Econ 2011) — Clemson, SC

- Taught 'Principles of Macroeconomics' to approximately 200 undergraduate students.

Clemson University — August 2017- May 2019
Teaching Assistant — Clemson, SC

- Acted as TA for 'Principles of Microeconomics' (Econ 2011) and 'Principles of Microeconomics' (Econ 2012). Lectured once a week, authored quizzes, graded exams, and answered undergraduate economics students' questions.

Professional/Research Experience

Clemson University — July 2020-Present
NBER Pre-Doctoral Fellow on Energy Economics — Clemson, SC

- Utilized transaction-level electric vehicle charging data to perform discrete choice demand estimation
- Estimated charging station elasticity and the role of charging station characteristics on demand
- Identified how drivers substitute between charging stations when charging price changes

Clemson University — August 2016-July 2019
Graduate Research Assistant — Clemson, SC

- Collected, merged, and cleaned data for professor's research on election contributions using Python
- Compiled historical immigration data for professor's economic research project and performed literature reviews
- Compiled and cleaned IMDB data for professor's research

U.S. International Trade Commission(USITC) — May-August 2018
Economics Intern — Washington DC

- Worked with trade, non-tariff data, and gravity data in Python; helped develop an approach to estimate the average treatment effect of non-tariff measures on trade flows
- Utilized R to create a single variable for the European Union in USITC gravity data set `https://www.usitc.gov/data/gravity/description.htm`
- Reviewed infrastructure literature, found data to help measure infrastructure development for USITC gravity data set, and organized the data using both R and Python.
- Researched regional trade agreements for USITC gravity dataset.

Healy Center for Economic Research January 2013- May 2016
Healy Fellow Pueblo, CO

- Analyzed aspects of the economic situation in the local community for the purpose of economic development.
- Assisted with projects to promote growth of the local economy.
- Coordinated an economic impact study of the CSU-Pueblo sports program. Worked as a part of a team with two other students to write a survey, collected and complied data from local businesses, and wrote a report for the Pueblo Urban Renewal Authority.
- Individually conducted a needs assessment of a Doctorate of Nursing program
- Compiled data and helped prepare a presentation for the Pueblo Economic Forum given by a CSU-Pueblo professor.

Awards and Fellowships

NBER Pre-Doctoral Fellowship on Energy Economics 2020-2022
3rd Year Paper Award, Clemson University 2020
Graduate Assistant, Clemson University 2016-2020
Outstanding Economics Student Award, Colorado State University Pueblo 2015
Healy Fellowship Recipient, Healy Center for Economic Research 2013-2016

Technical Skills

Languages: Python(Proficient), R(Proficient)
Statistical Packages: MATLAB, EViews, mlogit(R), scikit-learn(Python), Matplotlib(Python)
Tools/Framework: LaTeX, Palmetto Supercomputing Cluster, ArcGis, Microsoft Office, Linux(Basic)

Research Presentations

Clemson University Industrial Organization Workshop 2018-2021
Presented Each Semester on Current Research Clemson, SC

Southern Economic Association 2020
"Are We There Yet? Understanding How Charging Station Prices New Orleans, LA
and Characteristics Affect Electric Vehicle Drivers"

Southern Economic Association 2018
"Does the Presence of Indian Reservations Decrease Oil and Natural Gas Drilling?" Washington DC

Working Papers

- "Are We There Yet? Understanding How Charging Station Prices and Characteristics Affect Electric Vehicle Drivers" (**Job Market Paper**)
  Abstract: Vehicle manufacturers and governments across the U.S. employ various subsidies to promote the adoption and use of electric vehicles (EVs). One common approach develops networks of EV charging stations and subsidizes the price consumers pay for charging, but doing so sensibly is hampered by a poor understanding of EV drivers' demand for stations and charging. Using charging-session level data from the Evergy charging network in Kansas City when there was a discrete end to a charging subsidy, I empirically analyze drivers' response to differences in station characteristics and changes in charging price subsidies. I find station characteristics played an important role in driver demand for stations, and charging decreased 55% when the price subsidy ended. These findings suggest the need to better account for the effects of station characteristics and charging price in the evaluation of future EV subsidy programs.

- "How Do Electric Vehicle Station Subsidies Affect New Station Construction?"
  Abstract: Over the last decade there have been an increasing number of subsidy programs that encourage the adoption of electric vehicles. One common approach is through subsidizing the construction of electric vehicle charging stations, but it is unclear how much these subsidies induce new station construction. This paper finds that these subsidies increase the number of stations built in areas already experiencing EV adoption but do not have an effect on cities with low EV adoption.

- "Does Electric Vehicle Station Density Affect Usage?"
  Thousands of electric vehicle charging stations are installed every year across the United States. It is often thought that these stations interact similar to gasoline stations and should be placed similarly. However, existing literature does not explore how spatial relationship between stations affects station usage. This paper finds that unlike gasoline spatial relationship between stations has very little effect on station usage or substitution between stations. Instead drivers are more likely to substitute towards chargers they have previously used, regardless of the distance between stations.