

MICHAEL R. KARAS

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EDUCATION

<i>Ph.D.</i> , Economics, University of Colorado Boulder (expected)	2026
<i>M.A.</i> , Economics, University of Colorado Boulder	2023
<i>M.A.</i> , Applied Economics, University of Illinois Chicago	2020
<i>B.A.</i> , Economics and History, Vanderbilt University	2017

RESEARCH INTERESTS

Environmental Economics, Economic History, Industrial Organization

JOB MARKET PAPER

The Role of Incumbent Firms in the Adoption of New Energy Sources: Lessons from America's Natural Gas Energy Transition

When technological innovations make cleaner and more efficient energy sources available, the economic gains from their adoption can be significant. However, incentives can drive incumbent firms to delay the adoption of new technologies. This paper studies how incumbent firms' adoption of new energy technologies is shaped by the market structure and regulatory environment. In particular, I analyze the role of incumbent utilities in the transition from manufactured to natural gas in the United States during the first half of the twentieth century. Using detailed, newly-digitized panel data on community-level gas utility services, I leverage exogenous variation in pipeline proximity for 'en route' communities and regulatory changes introduced by the 1938 Natural Gas Act to investigate incumbent utility firms' decision to switch from manufactured to natural gas. I find that incumbent firms delayed adopting natural gas during the initial unregulated period but accelerated adoption after federal regulations provided price stability. Furthermore, while distance to the natural gas pipeline was important factor in determining which communities received natural gas service first, close proximity to the pipeline was not enough to overcome incumbent resistance. I also find that there was a regulatory lag of about a decade from the passage of the Natural Gas Act and when federal regulation accelerated adoption. I find that being owned by a holding company is an informative factor for which firms made the switch before the implementation of federal regulation. These findings illustrate how coordination, whether through ownership by a holding company or federal price regulation, can mitigate incumbent resistance arising from uncertainty and expedite technological transitions.

WORKING PAPERS

Regulatory Transition: The Effect of State Commissions on Price and Product Quality in the Early Gas Utility Industry

In this paper, I re-evaluate the effects of the initial adoption of state regulation of public utilities, focusing on the gas utility market. While prior research has focused on prices, I consider the effects on both prices and product quality. I also implement a new empirical approach to better account for potential biases arising from differences in local economic conditions. Using novel digitized data, I find evidence that early state regulation may have allowed gas utilities to increase their monopoly power not by raising prices relative to municipal regulators but by allowing lower-quality gas. However, I also find that state regulators permitted smaller price increases in response to the input price shock caused by World War I, suggesting that regulatory constraints on firms changed over time. Additionally, I find evidence of increased regulatory frictions resulting from the move to non-local oversight and greater pricing flexibility under state regulation through the adoption of block pricing schemes.

WORKS IN PROGRESS

Energy Use During the Expansion of Electricity and Gas Accessibly: A Discrete/Continuous Choice Approach to Urban and Rural Household Energy Demand in the Early 20th Century

The Diffusion of Declining Block Tariffs in the Manufactured Gas Industry

RESEARCH EXPERIENCE

Research Assistant, University of Colorado Boulder
Department of Economics, Reporting to Prof. Taylor Jaworski 2024–2025

Research Assistant, University of Colorado Boulder
Leeds School of Business, Reporting to Prof. Stephen Billings 2021–2025

Research Assistant, University of Colorado Boulder
Department of Sociology, Reporting to Prof. David Pyrooz 2025

TEACHING EXPERIENCE

Instructor of Record, University of Colorado Boulder
Intermediate Microeconomic Theory May 2025, Spring 2025, Fall 2023

Instructor of Record, University of Colorado Boulder
Principles of Macroeconomics Spring 2024

Instructor of Record, University of Colorado Denver
Master of Economics Math Camp (Calculus Section) August 2025, August 2024

Teaching Assistant, University of Colorado Boulder
Principles of Macroeconomics Spring 2023

Teaching Assistant, University of Colorado Boulder
Principles of Microeconomics Fall 2021, Spring 2022, Fall 2023

WORK EXPERIENCE

Property Administrator, JLL 2017–2019

- Prepared monthly and annual financial reports, including cash-flow and variance analysis, for a commercial office complex of over 800,000 sq. ft. with 80+ tenants
- Coordinated with GM and AGM on the yearly building operating budget
- Oversaw internal audits to ensure adherence to operating procedures

AWARD AND FELLOWSHIPS

Third Year Paper Award
University of Colorado Boulder 2024

Reuben A. Zubrow Graduate Fellowship for the Teaching of Economics
University of Colorado Boulder 2023

Priscilla Call Craven Scholarship
Vanderbilt University 2013–2017

PRESENTATIONS

Southern Economic Association Conference - accepted to present 2025
Economic History Associate Annual Meeting (poster)
NBER Summer Institute, Development of the American Economy (poster)
Front Range Energy Camp
The Canadian Network for Economic History Conference
University of Colorado Applied Economics Seminar

University of Colorado Environment Economics Seminar
University of Colorado Graduate Student Seminar
University of Colorado Graduate Student Seminar
CU Environmental and Resource Economics Workshop
University of Colorado Environment Economics Seminar

2024
2023

AFFILIATIONS AND PROFESSIONAL MEMBERSHIPS

Member, Economic History Association
Member, Southern Economic Association
Member, Illinois Economic Association

SOFTWARE

Python, R, Stata, ArcGIS, Latex

REFERENCES

Co-Advisor

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Co-Advisor

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