

# MICHAEL R. KARAS

Email: michael.karas@colorado.edu  
Website: <https://www.michaelrichardkaras.com/>  
Phone: (615)238-7591

University of Colorado  
Department of Economics  
256 UCB  
Boulder, CO 80309-0256

## EDUCATION

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<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

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Environmental Economics, Economic History, Industrial Organization

## JOB MARKET PAPER

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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

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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

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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

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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

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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

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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

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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

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*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 Brown 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

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

## SOFTWARE

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Python, R, Stata, ArcGIS, Latex

## REFERENCES

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### Co-Advisor

Professor Taylor Jaworski  
Department of Economics  
University of Colorado, Boulder  
256 UCB  
Boulder, CO 80309-0256  
Email: [tjaworski@gmail.com](mailto:tjaworski@gmail.com)

### Co-Advisor

Professor Scott Savage  
Department of Economics  
University of Colorado, Boulder  
256 UCB  
Boulder, CO 80309-0256  
Email: [scott.savage@colorado.edu](mailto:scott.savage@colorado.edu)