Hansen Pen

hansen.pen@rice.edu — (512) 289-2190 — Citizenship: Canada, Taiwan

RESEARCH FIELDS

Empirical Industrial Organization, Quantitative Marketing, Energy Economics

EDUCATION

Ph.D. Economics, Rice University	Expected 2026
B.A. Economics & B.S. Mathematics, University of Texas at Austin	2020

AWARDS AND FELLOWSHIPS

Graduate Fellowship, Rice University	2020 - Present
Center for Computational Insights on Inequality and Society Grant, Rice University	2025
Dissertation Research Improvement Grants, Rice University	2025
Samuel Fain Carter Fellowship in Economics for outstanding academic performance, Rice University	2024
Undergraduate Research in Economics Fellowship, UT Austin	2020
Unrestricted Endowed Presidential Scholarship, UT Austin	2019

WORKING PAPERS

Mergers, Market Structure, and the Rise of E-Cigarettes, with Joon Ha Kim (**Job Market Paper**)

This paper investigates market power and consumer inertia in the vaping and tobacco industry, with a focus on substitution patterns between cigarettes and e-cigarettes in the context of market structure changes, including a major merger and a potential total ban on traditional tobacco. Using a structural demand and supply framework, we leverage both aggregate retail scanner data and household-level panel data to capture consumer heterogeneity and state dependence, examining how past choices influence current preferences. Our merger simulations indicate that products from both merging firms experience higher prices and lower sales, leading to a 0.72% decline in consumer surplus and a 1.05% increase in smoking-attributable health costs due to substitution to other firms. In the scenario of a total ban, e-cigarette prices rise alongside sales. These results provide insights into competitive dynamics and the policy implications of a consolidating nicotine market.

Evaluating the Cost Effectiveness of Subsidies for Solar Panels in New York State, with Joon Ha Kim

This paper evaluates the effectiveness and cost efficiency of government policies promoting residential solar adoption in New York. Using a dynamic discrete choice model estimated with panel data on installations, demographics, and policy variation, the analysis examines how forward-looking households respond to subsidies, tax incentives, and net metering. Results show that federal and state tax credits are the most effective in encouraging adoption, followed by the capacity-based subsidy. Counterfactual simulations indicate that removing the subsidy would have significantly reduced adoption, while welfare analysis reveals that the social benefits of these programs amount to roughly 60% of their total costs, underscoring the need for more cost-effective policy design.

WORK IN PROGRESS

Horizontal Merger and Complementary Availability in the Video Game Industry (Third Year Paper)

Net-Metering Matters More than You Think: Evidence from California, with Joon Ha Kim

TEACHING AND RESEARCH EXPERIENCE

Teaching Assistant, Rice University	2020 - Present
Computational Economics (G), Econometrics I (G), Econometrics II (G), Econometrics (UG), Game Theory (UG), Market Design (UG), Principles of Economics (UG)	
Teaching Assistant, University of Texas at Austin	2019
Applied Statistics (UG), Discrete Mathematics (UG)	
Research Assistant, Rice University	
Professor David H. Zhang	Summer 2023
Professor Jeremy Fox	Summer 2022

PROFESSIONAL EXPERIENCE

Applied Scientist Intern, LinkedIn	Summer 2025

CONFERENCE AND SEMINAR PRESENTATIONS

United States Association for Energy Economics (USAEE)	2024, 2025
Third-Year Paper Conference, Rice University	2023
Brownbag Seminar, Rice University	2023

SKILLS

Programming: Julia, Python, Matlab, Stata, SQL
Languages: English, Mandarin

REFERENCES

Professor Jeremy Fox (Committee Chair)
Shatto Professor of Economics
Department of Economics, Rice University
jeremyfox@gmail.com

Professor Isabelle Perrigne
Reginald Henry Hargrove Chair in Economics
Department of Economics, Rice University
iperrigne@gmail.com

Professor David H. Zhang
Assistant Professor of Finance
Jones Graduate School of Business, Rice University
dzhang@rice.edu