ECON 8000/9000 Empirical Energy Economics
Reading List and Homework
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Housekeeping

Reading Access: Student access link: https://app.perusall.com/join/ZHOU-NK2M7
Notation: **[R]** indicates required readings; **[S]** for short papers; **[L]** for a handbook/literature review
Requirement 1: Informal "Mock Response" will be weekly/biweekly reading assignments on Perusall
Requirement 2: Formal "Mock Response" in the format of a short presentation will take place throughout the semester, scheduled or unscheduled

Reading List

Part A: Review of Empirical Methods

In this section, we will review empirical methods that you have learned in your econometrics class. Here, I have selected a few straightforward (and somewhat light-hearted) studies to help you review applied econometrics and gain some insight into energy economics.

Part A.1 Randomized Controlled Trials / Experiments

- **[R]** Allcott, H. (2011) "Social Norm and Energy Conservation", *JPubE*, 95 (2011) 1082-1095
- Burkhardt, J., Gillingham, K., Kopalle, P. (2023) "Field Experimental Evidence on the Effect of Pricing on Residential Electricity Conservation", *Management Science*, 69(12) December 2023, 7784-7798
- Davis, L., Martinez, S., Taboada, B. (2024) "How Effective is Energy-efficient Housing? Evidence from a Field Trial in Mexico", *JDE*, 143 (2020) 102390

Part A.2 Panel Data Regressions + (Hopefully) Quasi-Experiment in Panel Data

- **[R]** Scott, J. (2022) "Pounds That Save: The Role of Preference for Safety in Demand for Large Vehicle", *Journal of Law and Econ*, 65, August 2022
- **[S]** Knittel, C., Tanaka. (2021) "Fuel Economy and the Price of Gasoline: Evidence from Fuel-level Micro Data", *JPubE*, 202 (2021) 104496
- **[S]** Cicala, S. (2023) "Powering Work from Home", *JUE-Insight*, 133 (2023) 103474
- **[S]** Barwick, P., Kwon, Y., Wang, B., Zahur, H. (2023) "Pass-through of EV Subsidies: A Global Analysis", *AEA Papers and Proceedings*, 2023, 113: 323-328
- Severen, C., van Benthem, A. (2022) "Formative Experience and the Price of Gasoline", *AEJ:AE*, 2022, 14(2): 256-284

Part A.3 DID, Event Studies, Longer-differences, Local Projection DID (LP-DID)

- Gillingham, K., Kotchen, J., Levinsohn, J., Nalebuff, B. (2025) "The Musk Partisan Effect on Tesla Sales", *NBER WP*, No. 34413, October 2025
- Ta, C., (2024) "Do Conservation Contests Work? An Analysis of Large-scale Energy Competitive Rebate Program", *JEEM*, 124 (2024) 102926
- **[R]** Fabra, N., Gutierrez, Lacuesta, Ramos (2024) "Do Renewable Energy Investments Create Local Jobs?", *JPubE*, 239 (2024) 105212

Assignment PS1: Panel Data Analysis

- Replication Exercise: Severen and van Benthem (2022) "Formative Experiment and Price of Gasoline", *AEJ:AE*
- Tasks: See PS1.pdf
- Due: Tuesday 1/20 to Canvas

Part A.4 IV Regressions

Part A.4.1 IV Design Examples

- **[S]** Fabra, N., Rapson, D., Reguant M., Wang, J. (2021) "Estimating the Electricity to Real-time Pricing: Evidence from Spanish Electricity Market", *AEA P&P*, 2021: 425-429
- Davis, L, Hausman, C. (2020) "Are Energy Executives Rewarded for Luck?", *The Energy Journal*, November 2020, 157-180

Part A.4.2 RD Design

- **[R]** Smith, A. (2016) "Spring Forward at Your Own Risk: Daylight Saving Time and Fatal Vehicle Crashes", *AEJ:AE*, 2016, 8(2): 65-91
- Englmaier, F., Schmoller, A., Stowasser, T. (2024) "Price Discontinuities in an Online Market for Used Cars", *Management Science*, 64 (6), 2754-2766
- **[L]** Hausman, C., Rapson, D. (2018) "Regression Discontinuity in Time (RDiT): Considerations for Empirical Applications", Annual Review of Resource Economics, 2018 (10), 533-52

Part A.4.3 Bartik Shift-share-style Design

- **[R]** Allcott and Keniston (2018) "Dutch Disease or Agglomeration? The Local Economic Effects of Natural Resource Booms in Modern America", *RES*, 85, 695-731
- Krause (2026) "Adjusting to the Energy Transition: Training and Transfer in Coal Country", *JEEM*, 136 (2026) 103264

Assignment PS2: RD Regression Analysis

- Replication Exercise: Englmaier et al. (2024) "Price Discontinuities in an Online Market for Used Cars", *Management Science*
- Tasks: See PS2.pdf
- Due: Sunday 1/27 to Canvas

Assignment PS3: Additional Test for RD and RD in Time (RDiT)

- Replication Exercise: Smith (2016) "Spring Forward at Your Own Risk: DST and Fatal Vehicle Crashes", *AEJ:AE*
- Tasks: See PS3.pdf
- Due: Sunday 2/8 to Canvas

Mock Response MR1*:*

- Sign up on Google Sheet to present one of the following: (i) Cicala (2023) JUE-Insight, (ii) Gillingham et al (2025) NBER WP, and (iii) Allcott & Keniston (2018) RES
- Tasks: 2-5 slides
- Due: Sunday 2/8 to Canvas
- Present: Monday 2/9 in class

Part B: Best Practices for Conducting Empirical Work

Part B.1 Managing Your Empirical Project

- **[R]** Gentzkow, M., and Shapiro, J. (2014) "Code and Data for Social Sciences: A Practitioner's Guide"
- Ristovska, L. (2019) "Coding for Econ: A Language-Agnostic Guide for Programming for Economists"

Part C: Energy Economics Topics

Part C.1 Pass-through

Key Questions:

- Q: How does the pass-through of a consumer product depend on market structure and other factors?
- Q: How do input cost shocks pass through to consumers?

C.1.1 Empirical Studies

- Fabra, N., Reguant, M. (2014) "Pass-through of Emission Costs in Electricity Market", *AER*, 104 (9) 2872-99
- **[R]** Pless, J., van Benthem, A. (2019) "Pass-through as a Test for Market Power: An Application to Solar Subsidies", *AEJ:AE* 11(4) 2019
- **[S]** Muehlegger, E., Sweeney, R. (2022) "Pass-through of Own and Rival Cost Shocks: Evidence from the US Fracking Boom", *REStat*, 104 (6) 1361-1369
- Knittel, C., Meiselman, B., Stock, J. (2017) "The Pass-through of RIN Prices to Wholesale and Retail Fuel under the Renewable Fuel Standard", *JAERE*, 4 (4) 959-1228
- Ganapati, S., Shapiro, J., Walker, R. (2020) "Energy Cost Pass-through in US Manufacturing: Estimates and Implications for Carbon Tax", *AEJ:AE*, 2020 12(2) 303-42
- **[S]** Barwick, P., Kwon, Y., Wang, B., Zahur, H. (2023) "Pass-through of EV Subsidies: A Global Analysis", *AEA Papers and Proceedings*, 2023, 113: 323-328

C.1.2 Theory and additional readings

- Weyl, E., Fabinger, M. (2020) "Pass-Through as an Economic Tool: Principles of Incidence under Imperfect Competition", *JPE*, 2013 121 (3) 528-583
- **[L]** Kellogg, R., Reguant, M. (2021) "Energy and Environmental Markets, IO and Regulation", in *Handbook of Industrial Organization, Volume 5*, edited by Hortaçsu, Ho, and Lizzeri, Eds. Elsevier (2021), 5 (1) 615-742. To find the relevant material, search "pass-through" in this handbook chapter.

Part C.2 Energy Paradox / Energy Efficiency Gap Hypothesis

Key Questions:

- Q: Is there an energy efficiency gap in a specific industry/market?
- Q: If yes, what are plausible mechanisms/channels that may result in the energy efficiency gap?
- Q: If no, what may be factors that may lead us to mistakenly conclude there is an energy efficiency gap?

C.2.1 Literature survey articles

- **[L]** Allcott, H., Greenstone, M. (2012) "Is There an Energy-Efficiency Gap", *JEP*, 26 (1)
- **[L]** Gerarden, T., Newell, R., Stavins, R. (2017) "Assessing the Energy-Efficiency Gap", *JEL*, 55 (4)
- **[L]** Gillingham, K., Myers, E. (2025) "Economics of Energy Efficiency", in *Handbook of Electricity Regulation*, Edward Elgar Publishing

C.2.2 Empirical Studies

- Fowlie, M., Greenstone, M., Wolfram, C. (2018) "Do Energy Efficiency Investments Deliver? Evidence from the Weatherization Assistance Program", *QJE*, 133, 1597-1644
- **[R]** Busse, M., Knittel, C., Zettelmeyer, F. (2013) "Are Consumers Myopic? Evidence from New and Used Car Purchases", *AER*, 103 (1) 220-56
- Sallee, J., West, S., Fan, W. (2016) "Do Consumers Recognize the Value of Fuel Economy? Evidence from Used Car Prices and Gasoline Price Fluctuations", *JPubE*, 135 (2016) 61-73
- Myers, E. (2019) "Are Home Buyers Inattentive? Evidence from Capitalization of Energy Cost", *AEJ:EP*, 11 (2) 165-188
- Myers, E. (2020) "Asymmetric Information in Residential Rental Markets: Implications for the Energy Efficiency Gap", *JPubE*, 190 (2020) 104251
- Gillingham, K., Houde, S., van Bentham, B. (2021) "Consumer Myopia in Vehicle Purchases: Evidence from a Natural Experiment", *AEJ:EP*, 13 (3) 207-38

Research Project Step 1: Informal Research Sketch of 2-4 Ideas

- Collaboration allowed.
- Due: Tuesday 2/24 to Canvas

Assignment PS4: Valuation Ratio (VR) and Implied Discount Rate (IDR)

- Replication Exercise: Busse et al. (2013) "Are Consumers Myopic?", *AER*
- Tasks: See PS4.pdf
- Due: Sunday 3/1 to Canvas

Part C.3 Energy Efficiency and Rebound Effect

C.3.1 Literature survey articles

- **[L]** Gillingham, K., Rapson, D., Wagner, D. (2015) "The Rebound Effect & Energy Efficiency Policy", *REEP*, 10 (1)
- **[L]** Borenstein, S. (2015) "A Microeconomic Framework for Evaluating Energy Efficiency Rebound and Some Implications", *Energy Journal*, 36 (1)

C.3.2 Empirical Studies

- **[R]** Linn, J. (2016) "The Rebound Effect for Passenger Vehicles", *Energy J*, 37 (2)
- Aydin, E., Kok, N., Brounen, D., (2017) "Energy Efficiency and Household Behavior: The Rebound Effect in the Residential Sector", *RAND J*, 48 (3) 749-782
- West, J., Hoekstra, M., Meer, J., Puller, S. (2017) "Vehicle Miles (Not) Traveled: Fuel Economy Requirement, Vehicle Characteristics, and Household Driving", *JPubE*, 145 (2017) 65-81

Part C.4 Nuclear Energy

C.4.1 Empirical Studies

- Kiso, T., Chan, H. R., Arino, Y. (2022) "Contrasting Effect of Electricity Price on Retrofit and New-build Installation of Solar PV: Fukushima as a Natural Experiment", *JEEM*, 115 (2022) 102685
- Neidell, M., Uchida, S., Veronesi, M. (2021) "The Unintended Effects from Halting Unclear Power Production: Evidence from Fukushima Daiichi Accident", *JHE*, 79 (2021) 102507
- He, G., Tanaka, T. (2023) "Energy Savings May Kill: Evidence from Fukushima Nuclear Accident", *AEJ:AE*, 15 (2)
- Jarvis S., Deschenes, O., Jha, A. (2022) "The Private and External Cost of Germany's Nuclear Phase-out", *JEEA*, 20 (3) 1311-1346

Assignment PS5: Valuation Ratio (VR) with Quantity Effect + Impact of Rebound Effect

- Replication Exercise: (i) Gillingham et al. (2021) "Consumer Myopia in Vehicle Purchases: Evidence from a Natural Experiment", *AEJ:EP* and (ii) Linn (2016) "The Rebound Effect for Passenger Vehicles", *Energy Journal*
- Tasks: See PS5.pdf
- Due: Sunday 3/8 to Canvas

Research Project Step 1.5: Peer Discussion of Research Sketch

- Task: Continue peer discussion as we have done in class
- Check: Monday 3/8 in class

Research Project Step 2: Research Proposal Presentation

- Collaboration allowed.
- Due: Tuesday 3/10 to Canvas
- Present: Wednesday 3/11 in class