

# GABRIEL A. LOZADA

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## CONTACT INFORMATION

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Web: [www.economics.utah.edu/lozada](http://www.economics.utah.edu/lozada)

## EDUCATION

Ph.D., Economics, Stanford University, 1987

M.A., Economics, Stanford University, 1984

M.S., Engineering-Economic Systems, Stanford University, 1983

B.S., Physics, Louisiana State University (Baton Rouge), 1981

B.A., Economics, Louisiana State University (Baton Rouge), 1981

## TEACHING or RESEARCH FIELDS

Resource and Environmental Economics

Microeconomics

Dynamic Economics

Mathematical Economics

Personal Finance

## ACADEMIC POSITIONS

Associate Professor, Department of Economics, University of Utah, 1998–present.

Assistant Professor, Department of Economics, University of Utah, 1993–1998.

Assistant Professor, Department of Economics, Texas A&M University, 1987–1993.

Ciriacy-Wantrup Fellow, Energy and Resources Group, University of California at Berkeley, 1991–1992.

Instructor, Department of Economics, Texas A&M University, 1986–1987.

Teaching Assistant, Department of Economics, Stanford University.

Graduate Microeconomics, Autumn 1984

Economic Development, Winter 1985

Teaching Assistant, Department of Physics, Louisiana State University, Spring 1981.

Instructor, Freshman Physics Lab (Newtonian Mechanics, Thermodynamics)

## PUBLICATIONS (sole author and anonymous review unless stated otherwise)

- Mark Glick, Gabriel A. Lozada, and Darren Bush, “[Law and Economics Fallacies: What Modern Economics really says about the Definition of Efficiency and the Measurement of Welfare](#),” *Houston Business and Tax Law Journal*, forthcoming. (Manuscript is 96 pages single-spaced.)
- Mark Glick, Gabriel A. Lozada, Pavitra Govindan, and Darren Bush, “[The Horizontal Merger Efficiency Fallacy](#)” (draft), *Temple Law Review*, vol. 96 no. 4, forthcoming. (Manuscript is 49 pages single-spaced.)
- “[The Laws of Thermodynamics](#),” invited contribution (non-anonymous review), *Encyclopedia of Ecological Economics*. Jesús Ramos Martín and Emilio Padilla Rosa, editors, 2023, 349–356. Edward Elgar Press.
- “[The Hotelling Rule and The Hotelling Model](#),” invited contributions (non-anonymous reviews), *Dictionary of Ecological Economics*. Brent Haddad and Barry Solomon, editors, 2023, 270–272. Edward Elgar Press.
- Mark Glick, Gabriel A. Lozada, and Darren Bush, “[Why Economists Should Support Populist Antitrust Goals](#),” *Utah Law Review*, vol. 23 no. 4, 2023, 769–812. <https://doi.org/10.26054/0d-st5p-pam7>
- “[A Critique of Antitrust Econometrics: Aggregation, the Representative Consumer, and the Broader Concerns of the New Brandeis School](#),” *The Antitrust Bulletin*, vol. 67 issue 1, March 2022, 69–99. <https://doi.org/10.1177/0003603X211067829>.
- “[Fixed Income for Retirement Saving: TIAA Traditional’s Lessons on Quality, Duration, Risk, and Gradual Withdrawals](#),” *The Journal of Retirement*, Spring 2020, vol. 7 no. 4, 39–59 <https://doi.org/10.3905/jor.2020.1.064>.
- “[The Hotelling Rule for Entropy-Constrained Economic Growth](#),” *Ecological Economics*. *Ecological Economics*, March 2017, vol. 133, pp. 35–41. <http://dx.doi.org/10.1016/j.ecolecon.2016.10.022>.
- “Entropy, Free Energy, Work, and other Thermodynamic Variables in Economics.” *Ecological Economics*, January 2006, vol. 56 no. 1, pp. 71–78.
- “Constructing Age-Dependent Portfolios.” *Journal of Personal Finance*, 2004, vol. 3 no. 4, pp. 59–75.
- “Entropy and the Economic Process.” In Cutler J. Cleveland, ed., **Encyclopedia of Energy**, 2004, Volume 2, 471–478. Amsterdam: Elsevier.
- “Review of Malte Faber, John Proops, and Stefan Speck’s *Capital and Time in Ecological Economics: Neo-Austrian Modelling*.” *Zeitschrift für Nationalökonomie*, 2001, vol. 74 no. 2, pp. 215–220.
- T. Randolph Beard and Gabriel A. Lozada, **Economics, Entropy and the Environment: The Extraordinary Economics of Nicholas Georgescu-Roegen**. 1999. Cheltenham, United Kingdom: Edward Elgar.

- “The Role of Entropy and Energy in Natural Resource Economics.” In J. M. Goudy and Kozo Mayumi, eds., **Bioeconomics and Sustainability: Essays in Honor of Nicholas Georgescu-Roegen**. 1999. Cheltenham, United Kingdom: Edward Elgar.
- “Existence of Equilibria in Exhaustible Resource Industries: Nonconvexities and Discrete Time.” *Journal of Economic Dynamics and Control*, January 1996, pp. 433–444.
- “Resource Depletion, National Income Accounting, and the Value of Optimal Dynamic Programs.” *Resource and Energy Economics*, August 1995, pp. 137–154.
- “Georgescu-Roegen’s Defense of Classical Thermodynamics Revisited.” *Ecological Economics*, July 1995, pp. 31–44.
- “Existence and Characterization of Discrete-Time Equilibria in Extractive Industries.” *Resource and Energy Economics*, September 1993, pp. 249–254.
- “The Conservationist’s Dilemma,” *International Economic Review*, August 1993, pp. 647–662.
- “A Defense of Nicholas Georgescu-Roegen’s Paradigm.” *Ecological Economics*, June 1991, pp. 157–160.
- “Georgescu-Roegen’s Critique of Statistical Mechanics Revisited.” In J. C. Dragan, E. K. Seifert, and M. C. Demetrescu, editors, **Entropy and Bioeconomics: Proceedings of the First International Conference of the European Association for Bioeconomic Studies**, Rome, Italy: Nagard (1993), pp. 389–398.
- Leonardo Auernheimer and Gabriel A. Lozada, “On the Treatment of Anticipated Shocks in Models of Optimal Control with Rational Expectations: An Economic Interpretation.” *American Economic Review*, March 1990, pp. 157–169.
- G. Randolph Rice and Gabriel A. Lozada, “The Effects of Unemployment and Inflation on the Income Distribution: A Regional View.” *Atlantic Economic Journal*, July 1983, pp. 12–21.

## BLOG POSTS and WEB ARTICLES

- Darren Bush, Mark Glick, & Gabriel A. Lozada, “[Antitrust Enforcement in the Crosshairs](#),” Institute for New Economic Thinking website, 10/06/2023.
- Mark Glick, Gabriel A. Lozada, & Darren Bush, “[Postscript: A Further Look at ProMarket’s Economics](#),” Institute for New Economic Thinking website, 09/08/2023.
- Mark Glick, Gabriel A. Lozada, Pavitra Govindan, & Darren Bush, “[The Mythology of Horizontal Merger Efficiencies](#),” Institute for New Economic Thinking website, 08/31/2023.
- Darren Bush, Mark Glick, & Gabriel A. Lozada, “[Now You See It, Now You Don’t: Antitrust Arguments ‘Chicago Style’](#),” Institute for New Economic Thinking website, 08/17/2023.

Darren Bush, Mark Glick, and Gabriel A. Lozada, “[The Uninteresting and Retracted Piece from That Other Competition Site](#),” The Sling, 08/14/2023.

Darren Bush, Mark Glick, Pavitra Govindan and Gabriel A. Lozada, “[Although the New Merger Guidelines Should Be Applauded, There Is Still Room for Improvement](#),” The Sling, 08/09/2023.

Darren Bush, Mark Glick, & Gabriel A. Lozada, “[Creating a Modern Antitrust Welfare Standard that Integrates Post-Chicago and Neo-Brandeisian Goals](#),” ProMarket, 05/26/2023.

Gabriel A. Lozada, “[Merger Tests in Practice: A Critical Analysis](#),” Institute for New Economic Thinking website, 05/08/2023.

## **SPONSORED PROJECTS**

Fall 2020, one class off: Institute for New Economic Thinking, 10055893 Critique of Law. Mark Glick, PI; Gabriel A. Lozada. Total Funding \$47,800.

Spring 2022, one class off; Fall 2022, one class off: Institute for New Economic Thinking, 10061725 Econometrics. Gabriel A. Lozada, PI. Total Funding \$22,000.

Spring 2023, one class off: Institute for New Economic Thinking, 10068347 Horizontal Merger Reviews. Pavitra Govindan, PI; Mark Glick, Gabriel A. Lozada. Total Funding \$39,900.

Spring 2024, one class off: Institute for New Economic Thinking.

## **WORKING PAPERS** (all are single-authored unless stated otherwise)

“[A Note on Asymptotic Lognormality and the Asymptotic Superiority of Passive over Active Investing](#),” November 11, 2023.

“[Beyond Consumer Welfare and Profit Maximization: New Frontiers in Antitrust Economics](#),” April 5, 2023.

“[The Perils of Antitrust Econometrics: Unrealistic Engel Curves, Inadequate Data, and Aggregation Bias](#),” Institute for New Economic Thinking Working Paper, 2023. Web page [here](#).

“[Quantifying the Ethical Positions of the Consumer Surplus, Kaldor, and Hicks Criteria](#),” July 17, 2022.

“[A Neoclassical Theory of Use Value and its application to Social Decision-Making](#),” February 9, 2022.

“[Quantifying Environmental Economic Myths](#),” September 6, 2021.

Mark Glick and Gabriel A. Lozada, “[The Erroneous Foundations of Law and Economics](#),” Institute for New Economic Thinking Working Paper, 2021. Web page [here](#).

- “The Uselessness of Cost-Benefit/Kaldor-Hicks Evaluations in a General Framework,” February 23, 2021.
- “Consumer Surplus, the Coase Theorem, and the Lack of a Unique Objectively Efficient Allocation: An Elementary View,” February 24, 2020.
- “Financing Retirement using U.S. Treasury Bonds: Safe Withdrawal Rates, Mean/Standard-Deviation Frontiers, and Endpoint-Dependence of the Safest Maturity.” Revise and resubmit, **Financial Services Review**. Not yet resubmitted.
- “The Risk-Minimizing Portfolio when Planning to Buy a Fixed Immediate Annuity.” Journal rejection; not yet submitted elsewhere.
- “Constant-Duration Bond Portfolios’ Initial (Rolling) Yield Forecasts Return Best at Twice Duration,” March 2016.
- “Retirement Saving: Which are the Important Years?” January 2017.
- “Asset Location and Taxes: An Equal-Variance Approach,” January 2017.
- “A Simple Approach to Choice of a Parameter When Stochastic-Decision-Making Errors have Asymmetric Costs,” March 2014.

#### NEWS MEDIA COVERAGE (see separate listing for Utah water use topics)

- September 14, 2023 “The Meaning of ‘Efficiency’ & its Implications for Antitrust Economics,” interview on “News In Depth,” KBOO FM radio, Portland, Oregon. 16:14–29:39.
- September 2, 2023 “The Meaning of ‘Efficiency’ & its Implications for Antitrust Economics,” interview on “The KPFA Evening News,” Berkeley, California. 15:20–18:24.

#### UTAH WATER ISSUES (single-authored unless stated otherwise)

- Reports

- “Agricultural Water Use, Hay, and Utah’s Water Future,” working paper, 2022.
  - “Winter 2020 Update to ‘Debt Repayment Obligations Created by the Proposed Bear River Development Project’,” March 2020. Unfunded, sole author. Just after the September 2019 report was written, the State released a completely updated plan for the Bear River Development, necessitating a completely revised analysis.
  - “Debt Repayment Obligations Created by the Proposed Bear River Development Project,” September 2019. Written by me with some assistance from Steve Bannister. This research was funded by a \$4500 grant from U.S. Magnesium Corporation to the Department’s “Economic Evaluation Unit.”
  - “An Analysis of the “2017 Regional Water Impact Fee Facilities Plan & Analysis prepared for the Washington County Water Conservancy District by Zion’s Public Finance and Applied Analysis,” November 2017. [Lake Powell Pipeline.]

[Spreadsheet](#) analysis if the retail price of water is a constant percentage markup of the wholesale price of water; [spreadsheet](#) if the retail price of water is a constant dollar pass-through of the wholesale price of water; and an [explanatory document](#). July 2018. [Lake Powell Pipeline]

Analysis of District's consultant's report: [cover letter](#), [report](#) (co-authored with Gail Blattenberger), and District's [spreadsheet](#) corrected by me. 2016.

Washington County: [cover letter and analysis](#), and [spreadsheet](#). 2015.

Kane County: [cover letter](#), [analysis](#) (co-authored with Gail Blattenberger and Gordon Rowe), and [spreadsheet](#). 2013.

- Presentations (since 2014 only)

“[Economic Implications of a Shrinking Lake](#),” The University of Utah College of Law Wallace Stegner Center for Land, Resources and the Environment, 28th Annual Symposium, The Future of the Great Salt Lake, 03/16/2023 [invited panel discussion].

“[Solving Utah's Growing Water Crisis](#),” sponsored by the Utah Valley Earth Forum (on Zoom), Oct. 27, 2022.

“Debt Repayment Obligations Created by the Proposed Bear River Development Project.” CAKE Talk, U of U Dept. of Economics, 02/14/2020. Slides [here](#).

“Debt Repayment Obligations Created by the Proposed Bear River Development Project.” Presented to the 13th Annual Salt Lake County Watershed Symposium, 11/21/2019. Slides [here](#).

“Debt Repayment Obligations Created by the Proposed Bear River Development Project.” Presented to the Water Conservatives Conference, 09/05/2019. Slides [here](#).

“Is the Lake Powell Pipeline Affordable?” Presented to the Kiwanis Club of Sugarhouse, 05/14/2019. Slides [here](#).

“The Lake Powell Pipeline: Affordable? Desirable?” Presented to the Executive Water Finance Board, Governor's Office of Management and Budget, 06/13/2018. The agenda is [here](#) and my presentation slides are [here](#).

“Is the Lake Powell Pipeline Affordable?” Presented to the 10th Annual Salt Lake County Watershed Symposium, Utah Cultural Celebration Center, West Valley City, UT, 11/16/2016. Slides [here](#).

“Is the Lake Powell Pipeline Affordable?” Presented at the University of Utah, 9/21/2016. Slides [here](#). (This is a somewhat different set of slides than the presentation above.)

- News Media Coverage

June 9 and 17, 2023 “[L'Ouest américain, aux avant-postes du dérèglement climatique](#)” (print title), “[Dérèglement climatique : l'Ouest américain en première ligne](#)” (Internet title), paywalled English translation is “[The American West faces a new frontier: Climate change](#).” *M le magazine du Monde* (Paris). Interviewed by Corine Lesnes. French version captured in full [here](#).

May 17 and 19, 2023 “[Le Colorado, grand fleuve de l'ouest des Etats-Unis, perd de son débit et le partage de son eau devient une question politique](#)” (Internet title), “[Aux Etats-Unis, crispation autour du partage des eaux du Colorado](#)” (ProQuest title), paywalled English translation is “[Low flow of Colorado River reshuffles water allocation](#),” *Le Monde* (Paris). Interviewed by Corine Lesnes. French version captured in full [here](#).

December 2, 2022 “[Only one scenario could save the Once Great Salt Lake](#),” op-ed by Eric C. Ewert. *The Salt Lake Tribune*.

November 27, 2022 [“Quiz: Utah’s biggest water user,”](#) reported by Brian Maffly. *The Salt Lake Tribune*.

November 24, 2022 [“One crop uses more than half of Utah’s water. Here’s why,”](#) reported by Brian Maffly and Mark Eddington. *The Salt Lake Tribune*.

August 9, 2022 [“No easy fixes to Utah’s drought but experts offer some solutions,”](#) reported by Lincoln Graves, KUTV channel 2.

October 18, 2021 [“Cities or farms: Who gets the water?”](#) reported by Peter Rosen, KSL TV.

November 29, 2018 [“The Precarious Plan for the Lake Powell Pipeline: Officials in Utah’s fastest-growing county are obscuring details of what a high-stakes project will cost taxpayers.”](#) By Emma Penrod. *City Weekly* (Vol. 35 No. 27): pp. 13–15.

October 29, 2018 [“Warring Figures, Hidden Costs: While Experts Feud over the Cost of Utah’s Lake Powell Pipeline, the Public is Kept in the Dark—and Taxpayers on the Hook.”](#) By Emma Penrod. *High Country News* (Vol. 50 No. 18): pp. 8–11.

September 19, 2018 [“State mulls funding for Lake Powell Pipeline: Board looks at potential costs to St. George area.”](#) By David DeMille. *The Spectrum* (St. George, Utah), page A.8. Online version: [“State board weighs Lake Powell Pipeline Financing Questions.”](#)

August 18, 2018 [“The Green Green Grass of Home.”](#) By Mark Sundeen. *Outside Magazine*, pp. 76–83. Headline on the cover: “Pipeline to Hell: Utah’s Billion Dollar Plan to Water the Desert.” Note that there is only an indirect reference to my work (“the economists” and “the study’s lead author”).

March 20, 2018 [“\\$1.4B Pipeline topic of task force talk: St. George meeting will focus on Lake Powell.”](#) By David DeMille. *The Spectrum* (St. George, Utah), page A.2. Online version: March 19, 2019, [“So. Utah Invited to Speak Up on Funding Ideas for Lake Powell Pipeline.”](#)

January 14, 2018 [“Lake Powell Pipeline review paused: Federal regulators halting process at Utah’s request.”](#) By David DeMille. *The Spectrum* (St. George, Utah), page A.3. Online version: January 13, 2018, [Federal Regulators hit pause on Lake Powell Pipeline, at Utah’s Request.](#)

October 22, 2017 [“Utah asks for more time on Lake Powell Pipeline,”](#) *The Spectrum* (St. George, Utah), page G.2. Online version: October 12, 2017, [“Utah Requests Time Extension on Lake Powell Pipeline Questions.”](#)

October 21, 2017 [“Utah reports details on Lake Powell Pipeline are still being sorted out,”](#) *The Spectrum* (St. George, Utah), page A.5. Story reprinted on October 29, 2017 as [“Lake Powell Pipeline costs still uncertain,”](#) *The Spectrum* (St. George, Utah), page G.4. Online version: October 20, 2017, [“Lake Powell Pipeline Costs still Part of Study.”](#)

October 20, 2017 [“Lake Powell Pipeline will require state borrowing and higher water bills, Utah tells federal regulators,”](#) *The Salt Lake Tribune*.

October 13, 2017 [“Utah asking for more time: State is requesting Oct. 24 deadline,”](#) *The Spectrum* (St. George, Utah), page A.3.

August 24, 2017 [“FERC wants pipeline repayment plan: Detailed cost analysis has yet to be done,”](#) *The Spectrum* (St. George, Utah), page A.5.

Feb. 24, 2017 [“Water property tax bill stopped,”](#) *The Spectrum* (St. George, Utah), page A.4.

Oct. 4, 2016 [“Water district responds to criticism of controversial Lake Powell Pipeline,”](#) *St. George News*.

Sept. 23, 2016 [“Editorial: Lake Powell pipeline backers need a payment plan,”](#) *The Salt Lake Tribune*. (This piece does not mention me by name.)

Sept. 21, 2016 [“Soaring water rates inevitable if Lake Powell pipeline is built, economists say,”](#) *St. George News*.

Sept. 20, 2016 [“Analysis: Utah needs to subsidize 72 percent of Lake Powell Pipeline cost,”](#) *The Spectrum* (St. George, Utah).

Sept. 20, 2016 [“Who will pay for Powell pipeline? All of us, U. economists say,”](#) *The Salt Lake Tribune*.

June 22, 2016 “Newly released ‘financial surveys’ hint at how Lake Powell Pipeline debt might be repaid,” *The Salt Lake Tribune*. (This piece does not mention me by name.)

May 13, 2016 “Editorial: Lake Powell Pipeline funders? It would be all Utahns,” *The Salt Lake Tribune*. (This piece does not mention me by name.)

May 12, 2016 “State committee orders that contested Lake Powell Pipeline payment model be released to public” *The Salt Lake Tribune*. (This piece does not mention me by name.)

April 14, 2016 “Utah committee says disputed Lake Powell Pipeline financial info likely does exist,” *The Salt Lake Tribune*.

Feb. 2, 2016 “Lake Powell Pipeline: the push for an alternative. Critics question data, motives behind 140-mile pipeline to Colorado River,” *The Spectrum* (St. George, Utah).

Dec. 6, 2015 “Will Pipeline Weigh Down Your Wallet or Buoy Your Future?,” *Deseret News*.

Dec. 4, 2015 “New Reports Out on Pipeline, but Opponents Asking About Cost,” *The Spectrum* (St. George, Utah).

Dec. 1, 2015 “Pipeline Proposal: Climate Change Increases Water Needs,” *The Spectrum* (St. George, Utah).

Nov. 25, 2015 “Environmentalists Say Vague Lake Powell Pipeline Plans Hide High Cost for Utahns,” *Salt Lake Tribune*.

Nov. 11, 2015 “Study predicts Lake Powell Pipeline will trigger massive water rate, impact fee increases,” *St. George News*.

Oct. 29, 2015 “Economists Question Lake Powell Pipeline Costs, KUER radio (Salt Lake City).

Oct. 26, 2015 “University Economists Challenge Lake Powell Pipeline Payback Proposal,” *The Spectrum* (St. George, Utah).

Oct. 2013 “Debate over Green River Water Heats Up,” KUTV news.

Oct. 8, 2013 “Powell pipeline tab too steep for Kane County, report shows,” *Salt Lake Tribune*.

Oct. 2013 “Economists: Powell Pipeline Too Costly For Kane Co.” KUTV news.

Oct. 17, 2012 “Powell pipeline bottom line drains legislators’ support,” *Salt Lake Tribune*.

Oct. 16, 2012 “Lake Powell pipeline could quadruple water costs, U. economists say,” KSL news (John Hollenhorst).

## PRESENTATIONS (since 2014 only)

- “A Neoclassical Theory of Use Value and its application to Social Decision-Making,” CAKE Talk, U of U Dept. of Economics, 11/17/2023. Slides [here](#).
- “Why Economists Should Support Populist Antitrust Goals,” Lee E. Teitelbaum Utah Law Review Symposium, “The New Roaring Twenties: The Progressive Agenda for Antitrust and Consumer Protection Law,” Salt Lake City, UT, Oct. 21, 2022.
- “Initial Yield as a Forecast of Constant-Duration or Constant-Maturity Bond Portfolio Return near Twice Duration.” U of U Economics Department, 9/26/2014. Slides [here](#), working paper listed above.
- “Relicts in Economics (& elsewhere).” Presented to Nalini Nadkarni’s U of U interdisciplinary research group on relict structures. 9/18/2014. Slides [here](#).

## **SUPERVISION OF DISSERTATIONS AND MASTER'S THESES (chair only)**

Future Ph.D. dissertations of:

Hyeon Kim (on water pricing in Utah; final defense passed, one error to fix)

Michael Hogue (on explaining oil & natural gas production decisions at the level of the individual well)

Taeyoung Lee (on leave; undetermined topic)

Jordana Cashman's M.S. thesis, expected, 2024.

Rafael Guerrero's Ph.D. dissertation "A Wealth Accumulation for the Poor—A New Face Of Slums," 2023.

Joyita Roy Chowdhury's Ph.D. dissertation "Collective Action Dilemmas and Coping with Environmental Shocks: Empirical Analysis from Rural India," 2019.

Dallin Johnson's M.S. thesis "Differences in Willingness to Pay for Reduced Air Pollution by Income Level: A contingent valuation study conducted in Salt Lake County, Utah," 2017.

Chanté Lundskog's Master of Science and Technology thesis "The Assessment of Moose Habitat in Southern Utah," 2017.

Jaron Halford's Master of Public Policy thesis "The Role of Institutions: Ecological Footprints, Environmental Efficiency, And Development," 2013.

Tysen Gehring's M.S. thesis "External Costs of Aquaculture and the Effects on Scottish Salmon," 2012.

Kuo-Liang "Matt" Chang's Ph.D. dissertation "A Sustainable Fishery Management Study: The Yellowfin Tuna Fishery in the Western and Central Pacific Ocean," 2007.

Hyochang "Henry" Lee's Ph.D. dissertation "The Economics and Optimal Management of the Brine Shrimp Resource in the Great Salt Lake," 2006.

Julie Ann Suhr Nelson's Ph.D. dissertation "Framing and Levels of Abstraction in Economic Theory with an Application to Public Land Management," 2002.

Kristina Kushnir's Ph.D. dissertation "Oil Auctions in Russia," 2000.

Shan Huang Cavanaugh's Ph.D. dissertation "Are the Cheapest-to-deliver Ten-Year Treasury Notes Squeezed due to their Futures Trading on the Chicago Board of Trade?" 1999.

Kuo-Liang Chang's M.S. thesis "Land Reform in Taiwan," 1998.

Jerome E. Bennett's M.S. thesis "An Economic Environmental Responsibility: Used Tires," 1998.

## COMMUNITY SERVICE/RESEARCH

Pro Bono Consultant, Utah Rivers Council, 2010–2019. Provide guidance on economic models of water use and pricing in the context of water conservation and the removal of the property tax subsidy to water in Utah. Until 2016, often co-authored with Gail Blattenberger.

Ballpark estimate of *pro bono* work's value: The economic consulting firm hired by the Washington County Water Conservancy District to support the opposite side of the argument had been paid more than \$400,000 as of 2016.

Witness, Utah State House of Representatives, Revenue and Taxation Standing Committee, March 1, 2013. Spoke on House Bill 98, "Severance Tax Revisions," introduced by Rep. Brian King). I presented my research on the effects of severance tax increases on revenue and oil & gas drilling in Utah. <http://le.utah.gov/~2013/minutes/HREV0301.pdf>. Minutes [here](#).

Witness, Utah State House of Representatives Revenue and Taxation Standing Committee, February 15, 2011. Spoke on House Bill 112, "Severance Tax Code Revisions," introduced by Rep. Brian King.

Feb. 15, 2011 "[Proposal to hike taxes on oil and gas wells flames out: Natural resources: Dem says bill would bring an additional \\$26.5M in severance taxes,](#)" *Salt Lake Tribune* (Lee Davidson).

Feb. 15, 2011 "[Jacked: Utah gave oil and gas companies \\$200 million-plus while the rest of us got squeezed at the pump,](#)" *Salt Lake City Weekly* (Eric S. Peterson).

Consultant, Utah State Tax Review Commission, 2008. Together with a University of Utah PhD student, Michael Hogue, I wrote "[The Effect of Proposed 2009 Tax Changes on Utah's Oil and Gas Industry.](#)"

## TEACHING PROJECTS

- Advanced Natural Resource Economics (Econ. 7250)

Notes as of 2023: [Handout on Fisheries Economics](#) (84 pages) and [Notes on Entropy, "Information," and Inference](#) (18 pages).

Spring 2021: each lecture captured on video and placed online [here](#).

Class homepage [here](#).

- Environmental and Natural Resource Economics (Econ. 5250)

Fall 2021: each lecture captured on video and placed online at the [Videos](#) link from the class [homepage](#).

All old exams and almost all old exam answers available from the [homepage](#), which has an [index](#) classifying the old exam questions by topic area.

- Introduction to Environmental and Natural Resource Economics (Econ. 3250)  
Spring 2019: Online course development, unfunded, Spring 2019. Ninety-eight videos recorded so that this can be made into an online class in the future. The YouTube channel is [here](#) and the student interface is [here](#). The class homepage is [here](#).  
All old exams and almost all old exam answers available from the [homepage](#), which has an [index](#) classifying the old exam questions by topic area.
- Microeconomic Theory I (Econ. 7005)  
Fall 2020: each lecture captured on video and placed online at the [Videos](#) link from the class [homepage](#).  
All old exams and old exam answers sorted by topic are available to students [here](#).
- Intermediate Microeconomics (Econ. 4010)  
The class homepage is [here](#).  
TACC Fellowship, 2012–2013, \$5000, to develop online Econ. 4010. I made 123 [videos](#) for the class, each roughly 5 to 12 minutes long. In addition, all the exam questions I have ever given in this class, and their answers, are sorted by topic and given [here](#).  
4/2015–8/2015, Online Course Redevelopment, \$2000, to “redevelop” online Econ. 4010. I developed [an innovative Excel spreadsheet](#) enabling students to track their progress through the course. In the spreadsheet every video, homework problem, and old exam problem in the class is represented by a clickable link, and each has two checkboxes: the first so that the student can keep track of whether or not he or she has looked at a problem or video, and the second to keep track of whether they are totally done looking at a problem or video; the second checkbox changes the color of the item name to make it easy to tell at a glance which problems or videos the student still needs to review. (The Teaching and Learning Technologies staff did not know enough about Excel to assist with this project.)

## **SERVICE** (since 2012 only)

Department Ph.D. committee, 1993–6/2018, 8/2019–

Department Speakers committee, Chair, 2018–

Department CAKE Talk coordinator, 2018–

Department Honors Faculty Liaison or Honors Faculty Advisor, 9/2021–

[Academic] Senate Advisory Committee on Academic Policy [“SACAP”] appointed Co-Chair of the University of Utah Retirement Committee, September 2023–

[Academic] Senate Advisory Committee on Academic Policy [“SACAP”] appointed member of the University of Utah Retirement Committee, September 2021–September 2023.

Academic Senate, 8/2019–8/2023.

Consortium for Dark Sky Studies Steering Committee, 2016–2021.

RPT Secretary, 2017

College RPT Committee, 2012.

Media Exposure: Feb. 18, 2021, “Will President Biden’s executive order on climate change cost or create jobs?” Reported by Michelle Poe, KUTV News. Available [here](#).