

Research Statement

Meng Song

mengsong.econ@gmail.com · mengsong.net

I am a Ph.D. Candidate in Econometrics and Quantitative Economics (STEM) at the University of Connecticut, where I am also completing a Master's degree in Data Science. My research lies in applied microeconomics. My research interests include labor economics, the economics of education, public policy, digital economics, the economics of technology and AI, applied microeconometrics, machine learning, data science, behavioral economics, and environmental economics. I study how technological, institutional, and environmental changes shape economic behavior, human capital, and economic inequality. This work develops along three areas: the future of work, the future of education, and behavioral economics and public policy, with future research extending toward AI for science. Across these areas, I combine econometrics with modern methods such as machine learning, natural language processing, and large language models to analyze large structured and unstructured datasets.

Research Agenda

The Future of Work

The first strand of my research examines the future of work, investigating how technological and structural changes—such as artificial intelligence and the rise of remote work—reshape labor market opportunities and outcomes, human capital formation, and economic inequality. I study topics including productivity and performance, gender inequality and worker displacement, as well as task transformation and industry-specific adaptation.

“The Future of Work: Remote Opportunities and Female Labor Force Participation” is solo-authored and conditionally accepted at the *Journal of Public Economics*. This paper examines the effects of the expansion of work-from-home (WFH) opportunities accelerated by the COVID-19 pandemic on female labor market outcomes. Using a difference-in-differences and event study design, I compare individuals in Metropolitan Statistical Areas with higher WFH potential to those in areas with lower WFH potential before and after the pandemic. The biggest contribution is that it provides some of the first population-level causal evidence that WFH opportunities can shift aggregate labor supply.

The results indicate that relative to men, access to WFH opportunities significantly increases the likelihood of female labor force participation, employment, and full-time work. These effects are particularly strong among college-educated mothers and mothers with young children. More broadly, WFH opportunities account for approximately 13 percent of the observed convergence in the male–female labor force participation gap, corresponding to roughly 136,000 additional mothers in the U.S. labor force during the stable post-pandemic period. Furthermore, the mechanism analysis demonstrates that mothers' own WFH opportunity is the primary driver of the effect, while the spillover from a husband's WFH remains a secondary but meaningful force. The effect operates by relaxing a caregiving constraint: it is largest where childcare is most costly and works mainly by drawing nonemployed mothers into the labor force. College mothers benefit most because they have greater access to high-teleworkability occupations.

In ongoing work, “Who Gains and Who Adapts? The Effects of Generative AI on U.S. Local Labor Markets” I examine the labor market effects of generative artificial intelligence following the release of ChatGPT. Using data from the American Community Survey and occupation-level AI exposure scores developed by OpenAI and Anthropic, I construct an LMA-level measure of AI exposure by combining pre-ChatGPT occupational employment shares with exposure scores. Employing a difference-in-differences and event study design, I exploit geographic variation in AI exposure to identify impacts across U.S. local labor markets and individuals,

with effects varying across industries and demographic groups. Because remote work and AI exposure load on overlapping occupations, the two shocks are modeled together. A companion project, “Majoring in the Age of AI: Generative AI Exposure and Students’ Field and Career Choices,” uses national student-record data to examine how exposure to generative AI shapes students’ field of study and career choices, providing new evidence on how technological change influences educational and career decisions.

The Future of Education

The second strand of my research, on the future of education, examines how institutional reforms and technological innovation shape students’ academic performance, skill development, and long-term outcomes. My job market paper, “When Less is More: School Schedule Reform and Student Outcomes”, examines how school schedule reforms shape students’ outcomes by studying the four-day school week, in which students attend school four rather than five days per week. Across the United States, the four-day school week has emerged as one of the fastest-growing educational reforms, reshaping classroom routines, family schedules, and teacher labor markets. Yet existing research has focused primarily on elementary school students and short-run outcomes, leaving limited evidence on high school students and the long-run consequences of the reform for students’ educational trajectories and human capital accumulation. Using an IRB-approved administrative dataset from the Colorado Department of Education that covers more than one million unique student-level records across nearly two decades, we fill this gap by exploiting the staggered district adoption of the four-day week to estimate causal effects through a difference-in-differences framework.

The results show modest improvements in test scores, lower dropout rates, and higher on-time and overall graduation. These findings challenge the conventional view that shorter school weeks reduce learning and instead suggest that reallocated time and greater flexibility can improve achievement and persistence. Additional evidence from teacher and spending data indicates that improved teacher retention and modest increases in classroom resources likely contribute to these gains. Furthermore, the results highlight that the benefits are not uniform: students with longer and earlier exposure experience greater improvement, implying that the design and timing of implementation are crucial for realizing the policy’s potential. For state and district leaders debating schedule reform, this study demonstrates that alternative calendars can potentially raise academic outcomes when carefully implemented.

In a related project, “Not the Institution, but the Field: Evidence from Career and Technical High School” we examine how access to career and technical education affects students’ program field specialization and subsequent labor market outcomes in Connecticut. Using administrative data linking admissions records from the Connecticut Technical Education and Career System (CTECS) with longitudinal student and labor market records, we find that CTECS access substantially changes students’ field choices, while the subsequent labor market benefits stem primarily from program specialization and technical skill acquisition rather than institutional attendance itself.

Behavioral Economics and Public Policy

The third strand of my research examines behavioral responses to environmental and public policy challenges, with a focus on how changes in economic and social environments shape individual preferences, beliefs, and policy-relevant behavior.

“Climate Change is Decreasing Risk Aversion Globally” is currently under review at the Review of Financial Studies. We estimate the effects of climate change on individual risk preferences, using global cross-sectional preference data linked to personal climate histories. We find that a 1°C increase in mean lifetime temperature is associated with a 0.318-unit decrease in relative risk aversion globally. We replicate the results in panel datasets from four countries containing longitudinal measures of risk preferences. Historical projections indicate that climate change between 1981 and 2026 decreased median global risk aversion by 16%. Our

results suggest that climate change may be shaping economic preferences in ways that could erode support for its own mitigation.

Two further papers in this strand concern firearm policy and the measurement behind it. “Permitted to Carry On: A Mixed-Methods Examination of Public Support of Permitted and Permitless Carry” examines public support for permitted and permitless firearm carry using a national survey experiment and qualitative interviews. Americans mildly support public carry but strongly prefer permitting requirements, support for permitless carry is more closely tied to political affiliation, and qualitative evidence reveals confusion about what “permitless” means in survey measures. “The Tricky Truth About Establishing Firearm Ownership in Survey Data,” submitted to the *Journal of Policy Analysis and Management* (Policy Insights), asks whether the major national surveys measure ownership the same way. We randomly assigned 4,691 Gallup Panel respondents to one of four established measures, drawn from the General Social Survey, Gallup, the National Firearms Survey, and a new instrument we developed from cognitive interviews with gun owners. Personal ownership estimates do not differ across measures, but household estimates differ by more than five percentage points, and question wording also changes item nonresponse. Together these papers show that measurement and framing shape what the evidence base for firearm policy can support.

Future Research Directions

Looking forward, I plan to continue developing my research in the areas outlined above while expanding into new questions in AI for Science. I am interested in interdisciplinary applications of AI in economics, education, and public policy, including AI-assisted decision-making and productivity, personalized learning and educational inequality, AI-enabled policy design and public-sector decision-making, and the implications of AI agents and multi-agent systems for economic behavior, incentives, and labor markets. I am also interested in how AI can transform scientific discovery, innovation, and the production of knowledge. I have begun this work through SocialScientistBench, a multi-author collaboration across ten social science disciplines building a benchmark for whether AI systems can carry out social science research, where I am leading the economics track.

Methodologically, I plan to integrate applied econometrics with machine learning, natural language processing, and large language models. I am particularly interested in using these methods to extract information from unstructured text, analyze high-dimensional data, and develop new approaches to measurement and causal identification. More broadly, I aim to integrate econometric methods with these emerging technologies to uncover behavioral mechanisms, improve empirical precision, and address questions that are difficult to study using traditional data and methods.