Sophia Wang

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EDUCATION

University of Wisconsin - Madison   Sep. 2023 - May. 2027(Expected)

B.S. in Mathematics & Economics with Honor

Overall GPA: 4.0

Relevant courses: Math 521 (Real Analysis), Math 632 (Stochastic Process), CS 320 (Python)
                             Math 431 (Probability), Econ 521 (Game Theory)

FIELDS OF INTEREST

Industrial Organization, Applied Micro, Labor Economy

EXPERIENCE

Econ 580 Indepedent Research   Spring 2025

How Minimum Wage Policies Correlate with Wage Inequality in the U.S. during 2000 - 2023

- Built on Autor et al.(2016) framework; estimated the effect of the difference between minimum and median wage on lower-tail wage inequality using OLS and IV regression.
- Used CPS MORG (NBER), CPI (FRED), and federal/state minimum wage data. Processed in Stata and Python: constructed real hourly wages (inflation-adjusted, top-code corrected)
- Found strong wage compression at the lower tail, especially in service and production sectors. Women showed larger impacts than men due to higher binding percentiles, while high-wage occupations (e.g., management) experienced negligible effects. IV estimates were consistently smaller than OLS, indicating that OLS overstates spillovers.

Econ 460 project   Fall 2024

Forecasting Dec 2024 CPI Inflation Rate

- Applied time-series models (AR, MA, ARIMA, ADL). Considered stagflation dummy for structural break adjustment.
- Used monthly CPI series (FRED). Processed in Stata, detrended series, generated stagflation dummy (1973-1981), applied ADF test for stationarity, adjusted non-stationary external variables (oil price, real M2).
- Estimated $AR(p), MA(q), ARIMA(p,0,q)$, and ADL models. Compared by AIC/BIC, MSE, and Diebold - Mariano test.
- Produced iterated forecast $\approx 2.3\%$ CPI inflation rate for Dec 2024; identified residual seasonality at lag 12 despite seasonal adjustment. Oil price proved most significant predictor in ADL model. Concluded ARIMA(1,0,2) provides balance of fit and parsimony

SKILLS & LANGUAGES

Languages	English (proficient), Mandarin (Native)
Programming	Python, Stata, R, Latex