THE IMPACT OF MINIMUM WAGE INCREASES ON YOUTH EMPLOYMENT: EVIDENCE FROM US STATE-LEVEL PANEL DATA

1. Introduction and Rationale

Raising the minimum wage has been a central issue in US economic and political discourse. While advocates argue it improves living standards, opponents claim it reduces employment—especially among vulnerable groups such as youth. This paper investigates the effect of minimum wage increases on youth employment across US states using a panel data econometric framework.

2. Research Objectives and Questions

- To evaluate whether changes in state-level minimum wage laws affect employment rates among individuals aged 16–24
- To quantify the magnitude and direction of the employment effect
- To test whether the effect varies across periods of economic expansion and recession

Research Question: Does an increase in the state-level minimum wage lead to a statistically significant change in youth employment levels?

3. Literature Review Summary

- Neumark and Wascher (2008) find negative employment effects from minimum wage hikes, particularly among teens.
- Allegretto et al. (2017) report minimal or no disemployment effects when controlling for state-level trends.
- Clemens and Wither (2019) show longer-term reductions in employment due to reduced job creation.

This paper builds on this literature by updating the data through 2022 and accounting for macroeconomic shocks (e.g., the COVID-19 pandemic) using fixed effects and robust standard errors.

4. Theoretical Framework

A standard neoclassical labor market model predicts that binding price floors reduce demand for labor. However, monopsony models suggest wage increases can raise employment by correcting employer power. This empirical study tests which model aligns more closely with observed youth labor market behavior.

5. Data Description

- **Dataset:**
  - Panel data of all 50 US states from 2000 to 2022
  - Youth employment rate (% of population aged 16–24 employed)
  - Minimum wage (in real 2022 dollars), state-specific
  - Control variables: GDP per capita, unemployment rate, high school graduation rate, population density
- **Sources:**
  - Bureau of Labor Statistics (BLS), US Census Bureau, Economic Policy Institute

6. Econometric Model and Estimation Strategy

Model Specification (Fixed Effects):

$$Y_{it} = \alpha + \beta \cdot MW_{\text{it}} + \gamma X_{it} + \mu_i + \lambda_t + \epsilon_{\text{it}}$$

Where:

- Y_{it} = youth employment rate in state i at time t
- MW_{it} = real minimum wage
- X_{it} = vector of control variables
- μ_i = state fixed effects
- λ_t = time fixed effects

Software Used: STATA

- Fixed effects (xtreg)
- Clustered standard errors by state
- Robustness check: lagged dependent variable model and placebo test

7. Key Results (Simulated):

Variable	Coefficient	Std. Error	p-value
Real Minimum Wage	−0.115	0.052	0.031
Unemployment Rate	−0.418	0.061	0.000
GDP per Capita	+0.021	0.009	0.042
High School Grad Rate	+0.087	0.034	0.015

- The coefficient for **minimum wage is negative and statistically significant**, suggesting a 10% increase in real minimum wage is associated with a 1.15 percentage point decrease in youth employment.
- Results are robust to multiple specifications and do not change sign across subsamples.

8. Discussion and Interpretation

The findings align with the standard competitive model of labor markets, indicating a **modest but significant disemployment effect** of higher minimum wages on young workers. However, the effect size is not dramatic, suggesting that minimum wage hikes may be tolerable up to a threshold.

9. Conclusion and Policy Implications

This paper contributes to the minimum wage debate by providing updated, state-level evidence from the US. While raising the minimum wage improves earnings for some, policymakers should consider its **potential employment trade-offs** for younger, less experienced workers. Policies such as targeted tax credits or youth wage exemptions might mitigate adverse effects.

10. Academic and Practical Relevance

- **Academic:** Appropriate for dissertations in labor economics, applied econometrics, and public policy.
- **Corporate/Policy:** Useful for labor economists, state policymakers, and think tanks evaluating wage policy trade-offs.