State-level minimum wage increases have a positive effect on Employment among lower and middle class populations

How have state-level minimum wage increases affected employment among lower and middle class populations?

Saniya Jain [1]

saniyajain@umass.edu

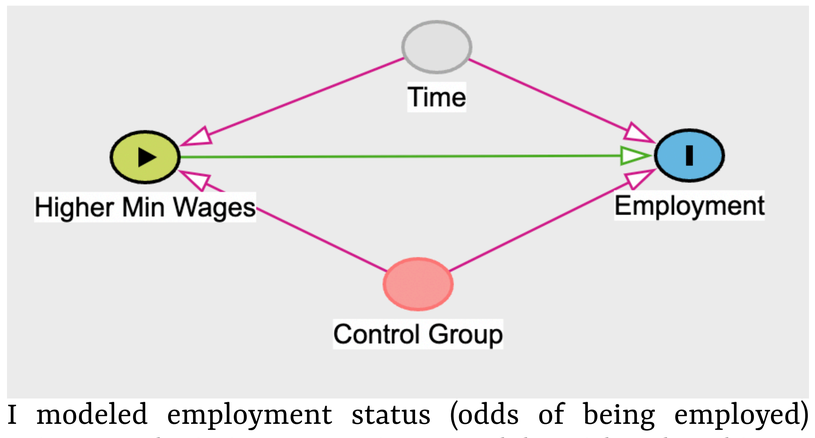
[1] *University of Massachusetts Amherst*

Introduction

The impact of minimum wage policies on employment is a key debate in labor economics, particularly for low and middle-income workers. While wage increases aim to reduce inequality and improve living standards, concerns about job losses among low-wage workers persist. Research shows mixed findings[1], with a general consensus that overall employment is minimally affected, though vulnerable groups may face challenges.[2] [3] This study uses a Difference-in-Differences (DiD) approach to examine the effects of state-level minimum wage increases in 2016, a critical year when many states implemented higher minimum wages, on low earners across three treatment states, assessing whether these policies improved employment outcomes or caused unintended declines.

Model

The treatment is the minimum wage increase, and the outcome is employment status. A control group helps account for general economic trends over time, isolating the treatment effect. Treatment group includes California, New York and Colorado and control group has Texas, Alabama and Mississippi. Fig 1 confirms the parallel trends assumption, showing similar trends in mean employment rates before 2016. A pre-treatment regression showed a slightly steeper upward trend for the treatment group (0.00195 per year), but it was not statistically significant, thus supporting parallel trends assumption.



I modeled employment status (odds of being employed) using a logistic regression model with the binary explanatory variables POST , treatment and the interaction term POST*Treatment, the DiD estimate capturing the additional effect of the treatment on the treatment group after the policy change.

$$y_i = \beta_0 + \beta_1 POST + \beta_2 Treatment + \beta_3 (POST * Treatment) + \epsilon_i$$

Data

I sourced data from IPUMS CPS (2010–2019), selecting Employment Status (EMPSTAT), Labor Force Status, Personal Income, and Wage and Salary Income for six states. The data was filtered to include individuals in the labor force earning below $130,000, resulting in 216,754 observations. The outcome variable EMP_BIN (1 = employed, 0 = unemployed) was derived from EMPSTAT. For the DiD analysis, binary variables POST and Treatment were created. Employment rates in graphs and tables were calculated as the average of EMP_BIN.

Results

Pre-Treatment Trends (2010–2015): The treatment and control groups show parallel trends in employment rates before 2016, meeting the parallel trends assumption. Both groups steadily increased employment.

Post-Treatment Trends (2016 onward): After treatment, the treatment group experienced a noticeable increase in employment rates, closing part of the gap with the control group. The control group continues to rise in employment, but at a slightly slower rate compared to the treatment group.

Fig.1 Difference-in-Differences Analysis of Employment Rate

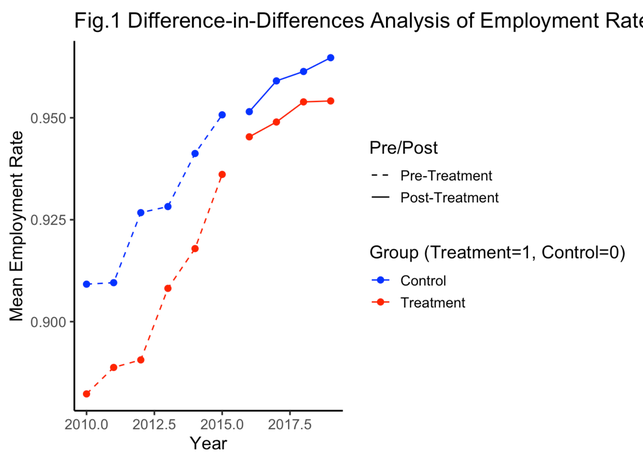


Table 1: Average Employment Rates by Treatment and Post-Treatment Status

Post-Treatment (1=Yes, 0=No)	Treatment Group (1=Yes, 0=No)	Mean Employment Rate
0	0	0.9276
0	1	0.9037
1	0	0.9591
1	1	0.9506

DiD Estimate = (0.9506 - 0.9037) - (0.9591 - 0.9276) = 0.0469 - 0.0315 = 0.0154

The DiD estimate is 0.0154 indicating that after adjusting for the control group's employment rate change, the treatment group's employment rate increased by 1.54% more than the control group. This suggests a slight positive effect of the treatment on employment rates in the treatment group.

Table 2: Estimates for a Model of Employment Status Regressed on POST, Treatment, and Their Interaction.

term	estimate	std.error	statistic	p.value
(Intercept)	2.5501557	0.0161507	157.897967	0.0000000
POST	0.6054802	0.0309278	19.577231	0.0000000
Treatment	-0.3114453	0.0202038	-15.415189	0.0000000
POST:Treatment	0.1121073	0.0396989	2.823942	0.0047437

The positive and statistically significant DiD coefficient (0.1121) indicates that the odds of being employed in the treatment group increased by approximately 12% (e^0.1121073 = 1.12) relative to the control group after 2016.

Discussion

The results suggest that state-level minimum wage increases have a slight positive effect on employment for lower and middle-class populations. This supports the broader theory that minimum wage increases can benefit low and middle-income workers without major negative employment effects, making it a viable policy tool for reducing income inequality. This research can be further enriched by incorporating longer time horizons, larger datasets with more states, or examining impact on subgroups like specific industries or demographics.

References

1. Cengiz, Doruk, et al. "The Effect of Minimum Wages on Low-Wage Jobs." The Quarterly Journal of Economics, vol. 134, no. 3, May 2019, pp. 1405–54.

2. A. Manning et al. "The Elusive Employment Effect of the Minimum Wage." Journal of Economic Perspectives (2016).

3. Georgios Giotis et al. "Employment Effect of Minimum Wages." Encyclopedia (2022).