Double-Lasso Enhancement on "The Effect of Minimum Wage on Low-wage Jobs"

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Abstract

-Using Double-Lasso to enhance the DID analysis on The Effect of Minimum Wages on Low-wage Jobs by Doruk Cengiz et al. (2019).
-Our enhancement indicates that the policy might lead to a shift in employment towards slightly higher-paying jobs.

Introduction

-Our study focuses on enhancing the parallel assumption of the DID method in the original paper.
-Minimal job changes post-minimum wage adjustments, mostly near minimum wage level.
Double Lasso confirms the paper's conclusion.

Literature Review

- Double-Lasso by Belloni et al. (2012)
- Chernozhukov et al. (2018) and Athey and Imbens (2019) on ML in econometrics.

ML Methodology

-Utilizes the Double-Lasso technique to refine treatment group selection for DID analysis.
-Applies placebo tests to confirm the robustness and precision of the regression outputs.

Results

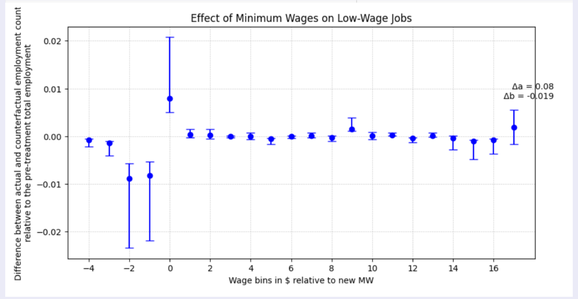

Figure: Impact of Minimum Wages on the Wage Distribution(Replication)

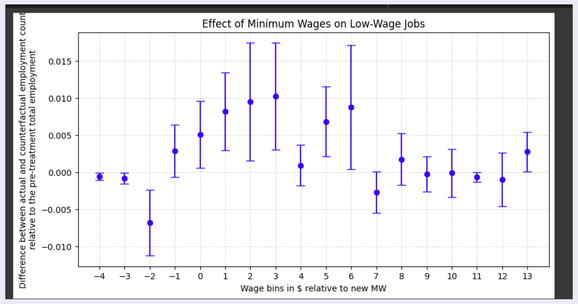

Figure: Double-Lasso Enhancement-Treatment

Figure: Double-Lasso Enhancement-Control

- The employment rate increase among workers above the minimum wage line after the policy change is greater than the employment rate decrease below the minimum wage line. This suggests a positive impact of the policy on employment rates.

Conclusions

-Research enhances traditional analysis with ML, offering new insights.
-Clearly states how ML methodologies advance understanding of labor market responses to policy changes.

Discussion

-ML analysis identifies detailed patterns, confirming robustness via placebo tests.
-Results link back, offering a deeper understanding of wage policy effects.

Reference

- Doruk Cengiz, Arindrajit Dube, Attila Lindner, Ben Zipperer, The Effect of Minimum Wages on Low-Wage Jobs, The Quarterly Journal of Economics, Volume 134, Issue 3, August 2019, Pages 1405–1454, https://doi.org/10.1093/qje/qjz014
- Belloni, A., Chen, D., Chernozhukov, V., Hansen, C. (2012). Sparse models and methods for optimal instruments with an application to eminent domain. Econometrica, 80(6), 2369-2429.

Other Contents

Supplemental content and Github link