Minimum Wage Effects and Monopsony Explanations

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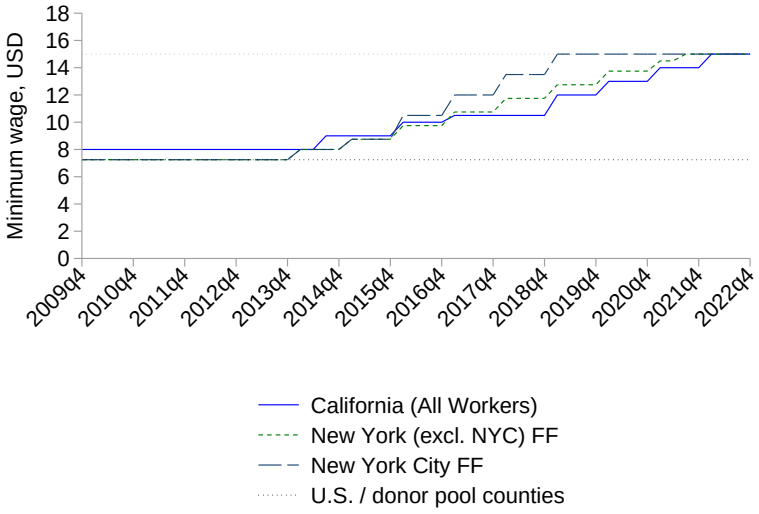
US fed minimum wage has not changed since reaching $7.25/hr in 2009q3

$\Rightarrow$ Almost half of US states have seen no MW change since 2009q3

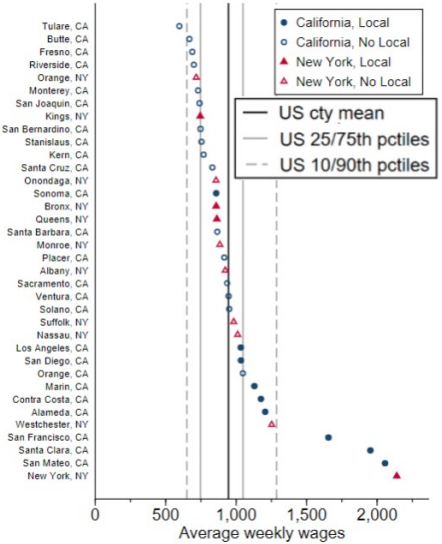
Since 2013, multiple states and cities have dramatically increased their MWs

- California: \$8 in 2014q2 to \$15 in 2022q1 $\rightarrow$ 87.5% increase
- New York State (fast food): \$7.25 in 2013q4 to \$15 in 2021q3 $\rightarrow$ 107% increase
- Cities in 9 CA counties raised MWs even higher; NYC area MWs $>$ state level
- Several other states and cities have also moved to increase MW to \$15
- Sharp contrast with incremental changes seen in previous decades

MW evolution in relevant areas with $15 MWs by 2022q1



We leverage economic variation among a diverse set of counties



Many recent MW studies detect small/no significant employment effects

Sample of studies that find small or no significant disemployment from min wage increases:

- Dube et al. 2010; Allegretto et al. 2011; Giuliano 2013; Dube and Zipperer 2015; Allegretto et al. 2017; Reich et al. 2017; Cengiz et al. 2019; Dube and Lindner 2021; Azar et al. 2023; Wiltshire 2023; Wursten and Reich 2023

Min wage lit. offers various explanations for "elusive" employment effects (Manning 2021):

- Min wages help overcome employment-reducing monopsony power
- Price pass-through lowers the impact on employers' bottom line
- Increases too small to induce emp effects; inflation mitigates impacts; analyses are short-run

Which of these explanations is primarily responsible?

We use very large min wage increases to test these explanations

Contributions

- First to examine causal effects of near-doubling of minimum wages, up to $15
  - → Large, positive earnings effects. No negative employment effects
  - → Reduced separation rates from low-wage restaurant employers
  - → Small price pass-through, reduced profit margins at McDonald's restaurants
- The evidence together indicates monopsony labor market dynamics in fast food sector
- Provide evidence that lower-wage labor markets are not more-subject to disemployment effects
- Novel methodological approach to ameliorate local pandemic-response bias

We use very large min wage increases to test these explanations

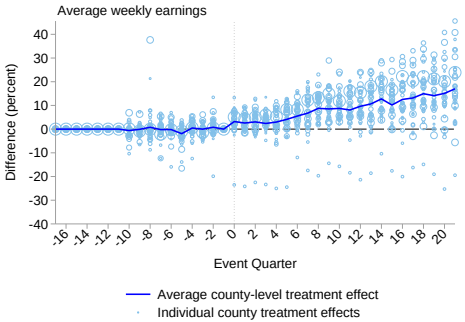
Primary research design, estimation strategy, outcomes:

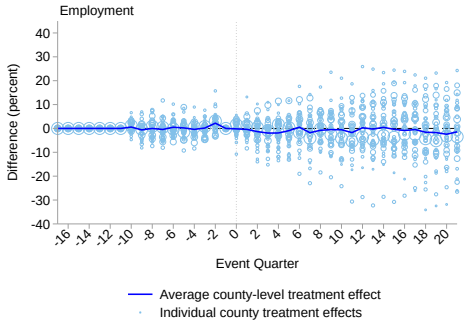
- County-by-county stacked synthetic control estimating strategy (bias-corrected)
- Treatment starts in 2014q3 (2014q1) in California (New York) counties. Balance in event time
  - $\rightarrow$ Pre-pandemic estimates through event quarter 21 (50–107% increase in min wage)
  - $\rightarrow$ Pandemic-inclusive estimates through event quarter 33 (88–107% increases in min wage)
    - Novel pandemic-response correction due to spurious correlation with min wage policies
- QCEW county $\times$ industry $\times$ quarter data $\rightarrow >$ 95% of all workers. 2009q4–2022q4
- Also CPS ORG, QWI, LAUS, Google Community Mobility data, and McDonald's survey data
- Effects on fast food industry in large counties
  - $\rightarrow$ 36 treated counties in California and New York (min wage $\geq$ \$15 by 2022q1)
  - $\rightarrow$ 122 donor pool (control) counties from 18 states with no ΔMW since 2009q3
  - $\rightarrow \geq$ 5k restaurant workers in 2009: reduce measurement error, bias, chance of overfitting
    - Impact on average earnings and employment?
    - Heterogeneous effects by average income or selection into higher local min wages?
    - Impact on separation rates?
    - How much price pass-through? Impact on profit margins at McDonald's restaurants?

Supplementary research design, estimation strategy, outcomes:

- Impact on all workers and teen workers? Robust to using CSDiD and SDiD?

Estimated effects for fast food workers (full sample, pre-pandemic)





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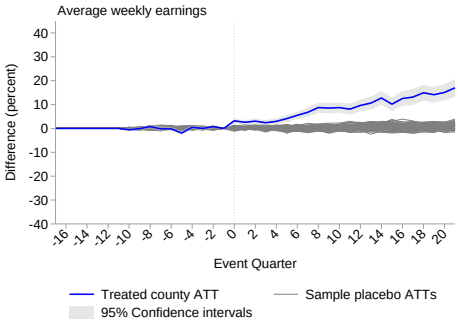
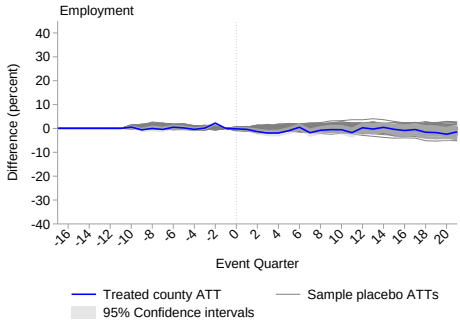
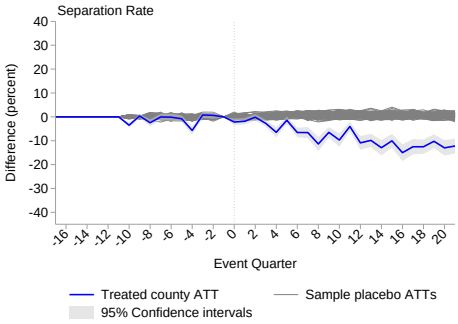


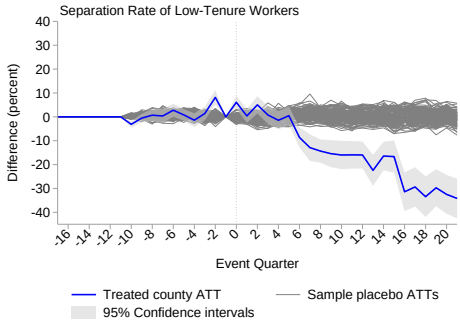


Avg earnings and employment effects over treated counties (pre-pandemic)

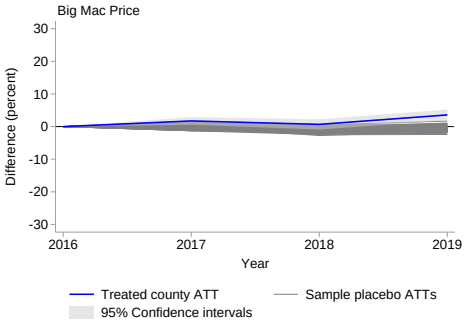
	Average Weekly Earnings	Employment	Own-wage Elasticity
Fast Food Workers			
A. All Treated Counties			
Treatment Effect	17.01	-1.43	-0.08
Elasticity	0.19	-0.02	
Placebo-variance-based 95% CIs	[0.14, 0.23]	[-0.06, 0.02]	[-0.27, 0.10]
Placebo-variance-based *p*-values	0.00	0.37	
RMSPE-based *p*-value	0.01	0.44	
B. Excluding Counties with Local Minimum Wages			
Treatment Effect	15.82	-0.30	-0.02
Elasticity	0.17	-0.00	
Placebo-variance-based 95% CIs	[0.13, 0.21]	[-0.05, 0.04]	[-0.28, 0.24]
Placebo-variance-based *p*-values	0.00	0.89	
RMSPE-based *p*-value	0.03	0.45	
C. Excluding Counties in the SF Bay Area and NYC			
Treatment Effect	14.93	0.61	0.04
Elasticity	0.16	0.01	
Placebo-variance-based 95% CIs	[0.12, 0.21]	[-0.03, 0.04]	[-0.18, 0.26]
Placebo-variance-based *p*-values	0.00	0.71	
RMSPE-based *p*-value	0.02	0.50	

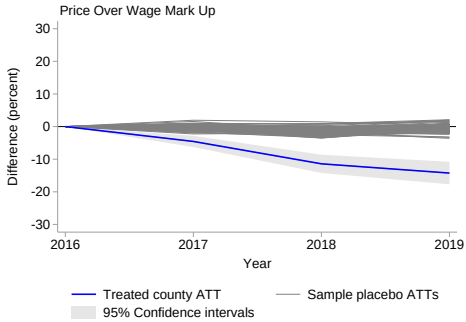
Effects on separation rates of workers (full sample, pre-pandemic)





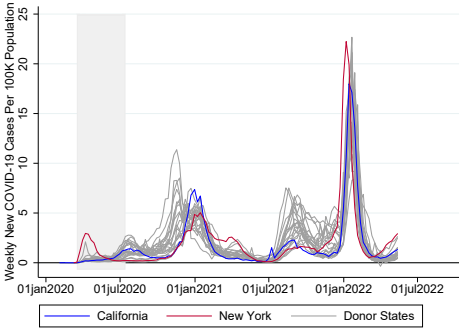
Effects on Big Mac prices and price-over-wage mark-ups



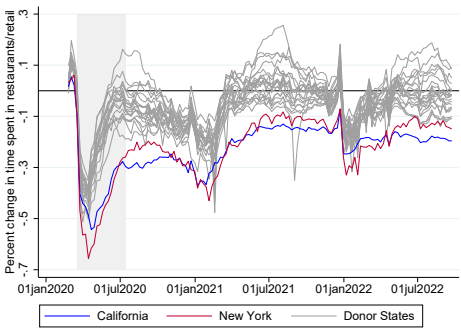


Negative pandemic-related shocks in CA, NY more severe than in donors

A. Change in detected Covid cases



B. Change in time spent in restaurants and retail establishments



▸ Pandemic-response index by county

Pandemic-response (PR) correction procedure

Effectively, for each treated unit:

(1) Estimate synthetic control weights

(2) Estimate effect of PR index (plus predictors) on each Y_t using only *untreated counties*, OLS

(3) Residualize all $Y_{i,t}$ (including treated unit) using coefficients estimated in (2)

(4) Apply weights from (1) to results of (3), then difference to obtain PR-corrected estimates

Requirements for validity of procedure:

A) No causal relationship between MW and effects of pandemic-response

$\rightarrow$ Shut down by estimating pandemic coeff using **only** untreated counties

B) Pandemic-response index is not correlated with pre-pandemic outcomes

$\rightarrow$ Bias- and pandemic-corrected results are same, on avg., $\forall\ t < 2020q1$

▸ Plot

Avg earnings and emp effects over treated counties (pandemic-inclusive)

	Average Weekly Earnings	Employment	Own-wage Elasticity
Fast Food Workers			
A. All Treated Counties			
Treatment Effect	8.82	7.33	0.69
Elasticity	0.10	0.08	
Placebo-variance-based 95% CIs	[0.05, 0.14]	[0.03, 0.12]	[0.22, 1.17]
RMSPE-based *p*-value	0.03	0.08	
B. Excluding Counties with Local Minimum Wages			
Treatment Effect	8.44	12.87	1.20
Elasticity	0.09	0.14	
Placebo-variance-based 95% CIs	[0.04, 0.14]	[0.08, 0.19]	[0.45, 1.95]
RMSPE-based *p*-value	0.05	0.08	
C. Excluding Counties in the SF Bay Area and NYC			
Treatment Effect	10.26	11.13	0.90
Elasticity	0.11	0.12	
Placebo-variance-based 95% CIs	[0.05, 0.17]	[0.06, 0.18]	[0.34, 1.46]
RMSPE-based *p*-value	0.03	0.05	

Complementary results I won't discuss today

- No net employment effects, using a SC wage bin-by-bin approach we developed
- Significant increases in 10^{th} percentile wage
- Significant, positive effects on hours, employment, wages, earnings for teens
- Conclusions robust to using DiD and SDiD research designs and estimators
- We also examine potential confounding impact of federal/state fiscal and labor market policies

Evidence indicates monopsony labor market dynamics in fast food sector

Evidence does not support non-monopsony explanations:

- The minimum wage nearly doubles: any possible negative emp effect should be clear here
- The treated period continues for 7.5 years: more than long enough for capital to adjust
- Price pass-through is limited: price elasticity wrt MWs is 0.06; adjustment must be on diff margin

Evidence is consistent with monopsony predictions:

- Null or positive employment effects
- Declining separation rates

Summary

We examine the impact of California and New York $\sim$ doubling the MW, to $15, over 7.5 years

- Primarily use a stacked (county-level) synthetic control estimation strategy
- Consistent with lit. on smaller increases over shorter treated periods, we find large positive earnings effects and no negative emp effects

We then further evaluate non-monopsony explanations for non-negative emp effects

- Find sharp reductions in treated restaurant worker separation rates
- Find very small price pass-through and reduced profit margins at treated McDonald's restaurants

These results are not due to small min wage increases, a short-run analysis, or price pass-through

- Monopsony/employer power is the only explanation consistent with results

The results hold among only poorer counties and only counties without higher local min wages

The results hold both pre- and post-pandemic

- The pandemic-inclusive results are biased by a spurious correlation with local pandemic responses
- Introduce a novel methodology to ameliorate this bias. Employment estimates grow more positive

Representativeness of sample suggests the results can be extrapolated across the U.S.

Thank you

Updated working paper coming shortly

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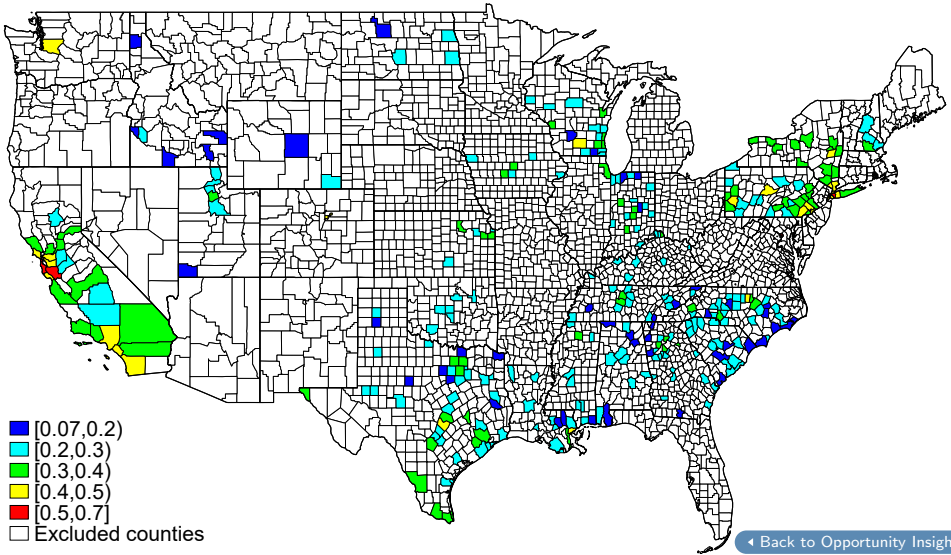
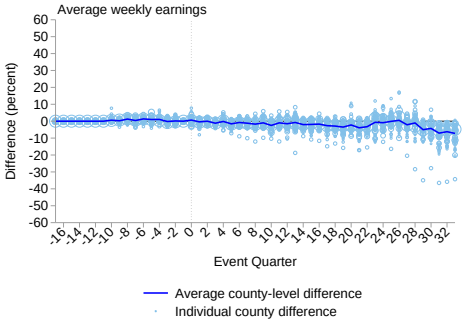
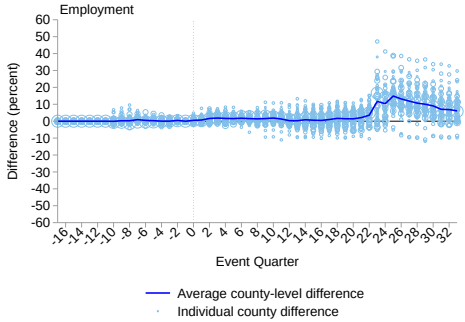
These data inform our county-level pandemic-response index



◂ Back to Opportunity Insights plot

Pandemic index isn't correlated with pre-pandemic outcomes





Back to pandemic correction details