Who's Afraid of the Minimum Wage? Measuring the Impacts on Independent Businesses Using Matched U.S. Tax Returns

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Motivation

Proposals to increase the minimum wage (MW) are often met with concerns about small businesses.

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As Minimum Wages Rise, Smaller Firms Get Squeezed

Motivation

Proposals to increase the minimum wage (MW) are often met with concerns about small businesses.

Forbes

EDITORS' PICK

$15 Federal Minimum Wage Attacks On Small Businesses

William Dunkelberg Contributor

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Motivation

Supporters argue that small firms can bear the higher costs and surveys indicate the 60% of small business owner favors raising the MW.

Businesses Support Raising the Minimum Wage

- *Business executives support a higher minimum wage*. A survey conducted by Republican pollster Frank Luntz that was leaked to the Washington Post in April found that 80 percent of business executives supported increasing the minimum wage.
- *Small business owners support a higher minimum wage.* A national poll of small business owners conducted by the American Sustainable Business Council found that 60 percent of small business owners support increasing the federal minimum wage to $12 by 2020 and indexing it to inflation.
- *Businesses are voluntarily raising wages*. Hundreds of businesses across the country have pledged to pay their workers at least $12 an hour by 2020.

Businesses Will Benefit from a Modest Increase in the Minimum Wage

- *Raising the minimum wage increases worker productivity*. Studies by leading economists, including Nobel laureate George Akerlof of Georgetown University, found that employee morale and work ethic increase when employees believe they are paid a fair wage. Economists have also linked higher wages

Motivation

Supporters argue that small firms can bear the higher costs and surveys indicate nearly 80% of executives favors raising the MW.

ENTREPRENEURS

Leaked Poll Shows Chamber Members Support Higher Wages -- Even Though The Chambers Don't

Robb Mandelbaum Contributor ⓘ

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Apr 24, 2016, 12:07pm EDT

LuntzGlobal, a communications firm founded by über-GOP pollster Frank Luntz surveyed 1,000 top executives (nearly half were owners) and found that they supported raising the minimum wage 79%-8%. By similar margins, they supported expanded parental leave, paid sick days, and paid leave to take care of relatives. They also supported legislation that would ban last-minute "on-call" scheduling.

This Paper: How do independent businesses accommodate MW increases?

Use administrative tax data to estimate firm response margins

- Labor inputs: Does employment decline? What types of jobs are affected?
- Incidence: How are new labor costs financed? Effects on revenues, other costs, profits
- Sector-level: Does the composition of firms change as a response?

Complement firm analysis with individual-level panel analysis

- Measure earnings and employment impacts for potentially vulnerable low-earning workers and young individuals
- Estimate retention effects and transitions across firms

Empirical Strategy

- Compare 19 states that raised their MWs between 2013-2016 to 21 states that left their MWs unchanged.
- Estimate regressions comparing similar firms/workers in treated and untreated states.

Key Findings

1. Little change in labor use by independent firms in response to minimum wage increases.
   - Virtually all reductions in employment are among part time ($<$\$1,000/year) teenage jobs.
   - Modest employment elasticities ($\epsilon \approx 0.25$)

2. Pay to low earning workers rises and new labor costs are fully financed by new revenues.
   - No reduction in owner profits.

3. The minimum wage affects the composition of firms in the exposed sectors.
   - Fewer new entrants, but entrants are more productive on average.
   - Productivity rises among existing firms with a higher share of revenues going to workers.

4. Potentially vulnerable (low-earning and young) individuals see significantly higher annual earnings and are no less likely to be employed on average.

5. Employee retention rates rise in response to MW increases

Contribution to the Literature

Employment and Earnings Effects:

Card and Krueger (1994), Neumark and Wascher (2008), Dube et al. (2011), Neumark et al. (2014), Meer and West (2016), Jardim et al. (2018), Clemens et al. (2018), Cengiz et al. (2019), Clemens and Wither (2019), Link (2019)

- Modest but often imprecise short/medium run employment effects mean earnings gains.
- Us: precise and robust estimates + within-firm worker heterogeneity by job/worker types four years after policy change

Distributional Consequences and Incidence:

Draca et al. (2011), MaCurdy (2015), Bell and Machin, (2018), Allegretto and Reich (2018), Harasztosi and Lindner (2019), Leung (2020) Renkin et al. (2020), Ashenfelter and Jurajda (2021), Dustmann et al. (2021)

- Either look separately at profits, revenue, prices, exit/entry, capital or at a limited set of firms.
- Us: Estimate multiple response margins using the same broad data and policy changes.

Focus on Small Firms

Neumark et al. (2019), Chava et al. (2019)

- Federal MW weakens financial health, and reduces viability of small firms in more affected states.
- Us: More comprehensive analysis + true control group allows for detailed evidence on aggregate effects on small and medium-sized businesses

Empirical Strategy and Data

Identifying policy variation: State MW increases

Sample period: 2010-2019

- Post GFC and last federal MW increase, and pre COVID

Treatment group: 19 states enacted a MW increase of at least $1 between 2013 and 2016

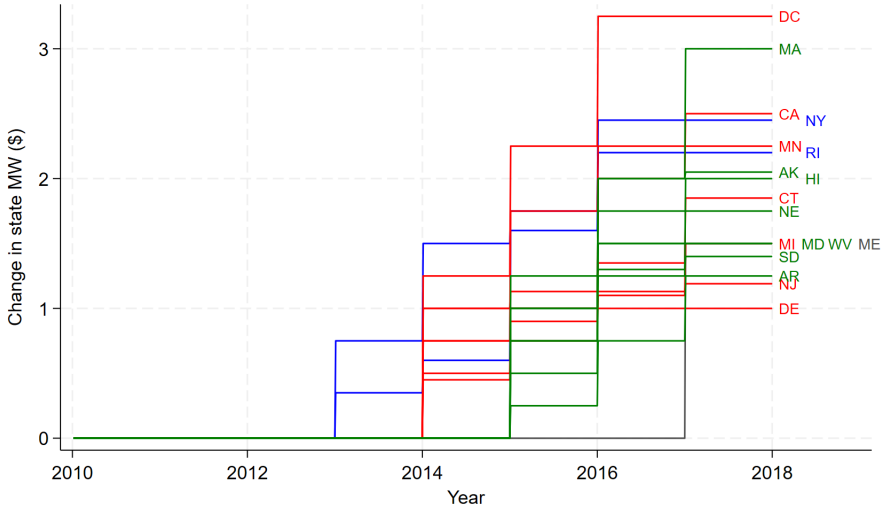
- Avg. MW increase of $2.17 or 28.6% by 2019
- Many MW increases were phased-in

Control group: 21 "clean controls" that had no MW increases from 2010-2019

- Exclude states that had increases before 2013 or after 2016 or small firm exemptions
- Includes states that had an indexed MW but made no changes in this period
- Clean identification and interpretation of event-study style coefficients

▸ Table

Identifying Policy Variation: State MW Increases



- Stack 4 separate data sets of "cohorts" based on year treatment states raised MW

Administrative Data: Firm-Worker Panel of "Pass-Throughs"

Focus on "independent businesses" i.e. privately owned / not publicly traded corporations.
In the U.S. the vast majority of privately owned businesses are organized as "pass-throughs" for tax purposes.

- Pass-through firms account for 82% of firms, 49% of employment (75% w/ <500 workers) and 56% of U.S. business income. ▸ Stats

Linked firm-worker dataset using universe of administrative tax records from the IRS

- All pass-through firms in treatment and control states from 2010-2019
- Firm income tax returns: revenues, costs (deductions), net profits
- Worker earnings (W-2): indiv. earnings, total wage bill, #employees
- Owners' business income returns (Sched K-1): identify owner employees and total owner earnings

Main analysis samples:

1. Balanced panel of active firms from years *t-4* to *t+4* for main firm-level effects
2. Use unbalanced panel for sector-level estimates ▸ Regression

Focus on firms in highly exposed industries

Census 2007	Industry Name	Share of MW Workers	2017 NAICS
290	Support activities for agriculture and forestry	0.01001	1151, 1152, 1153
8690	Drinking places, alcoholic beverages	0.01019	7224
7890	Other schools and instruction, and educational support services	0.01044	6116, 6117
7860	Elementary and secondary schools	0.01129	6111
7870	Colleges and universities, including junior colleges	0.01289	6112, 6113
7690	Services to buildings and dwellings	0.02138	5617
1680	Cut and sew apparel manufacturing	0.01685	3152, 3159
8660	Traveler accommodation	0.02056	7211
5170	Clothing stores	0.02401	4481
5380	Department stores and discount stores	0.02771	4522
4970	Grocery stores	0.04102	4451
8590	Other amusement, gambling, and recreation industries	0.04607	7131, 7132, 7139
8680	Restaurants and other food services	0.42242	7223, 7225

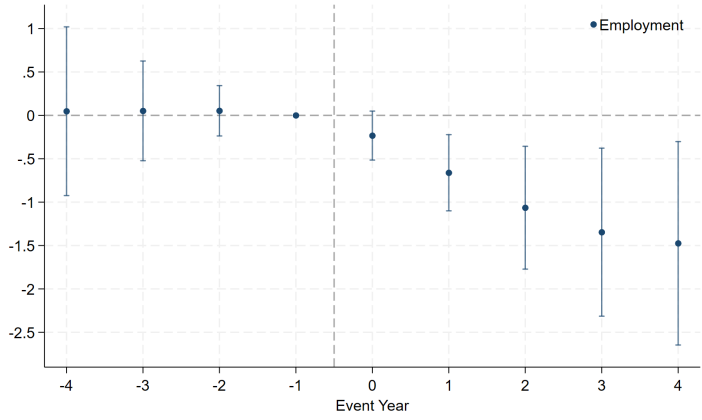
- "Highly exposed" industries: at least 1% of MW workers in year prior to MW increase
- Estimated from publicly available nationally representative survey data (CPS)
- These few industries account for $>2/3$ of all MW workers

Summary Stats - Treatment v. Control

	Means (base year)	
	Treatment	Control
Revenue ($)	1,818,455	1,738,397
Wage Bill ($)	341,419	312,114
Value-Added ($)	989,376	925,816
Owner Income ($)	124,508	121,324
Employees	52.4	43.9
Young Workers (16-26)	26	20
Share low earning workers	0.28	0.30
Wage bill / revenues (dollar weighted)	0.19	0.18

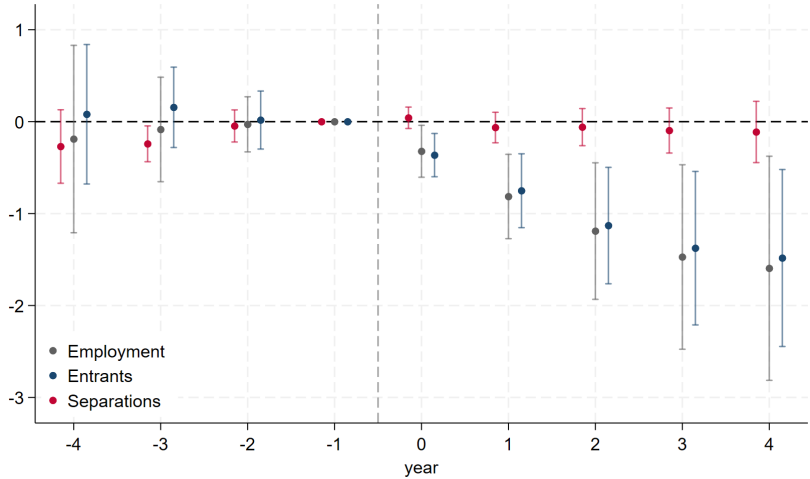
Results: How do independent businesses accommodate minimum wage increases?

Modest Employment Effects Among Highly Exposed Firms



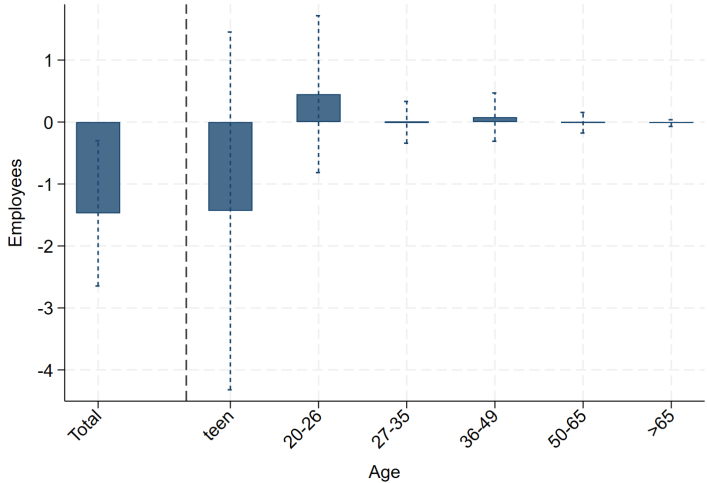
Own wage elasticity = -0.245 (0.101) for highly exposed independent businesses in the U.S. is small and similar to estimates in recent studies ▸ Elasticity compare

Decomposing employment effects by hiring vs. separations



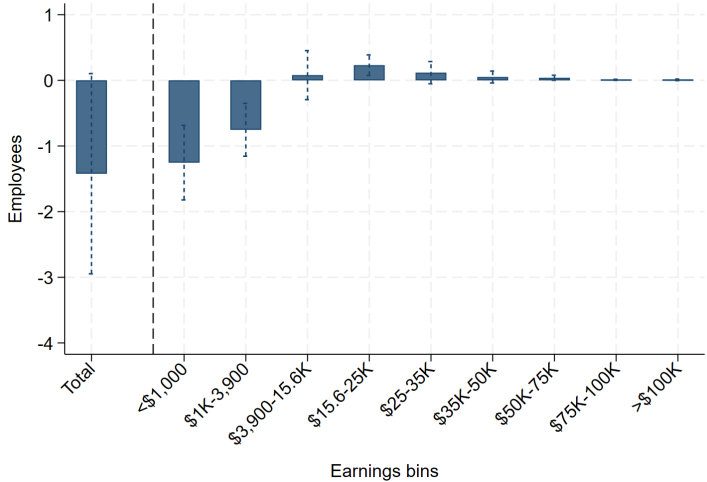
Reduced hiring accounts for all employment losses.

Decomposing the net employment effect by worker age



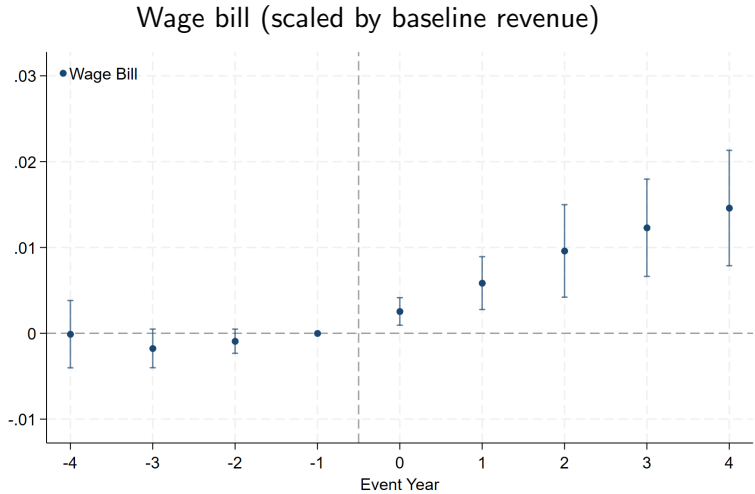
Reduced hiring fully concentrated among teenagers on average.

Decomposing the net employment effect by worker earnings



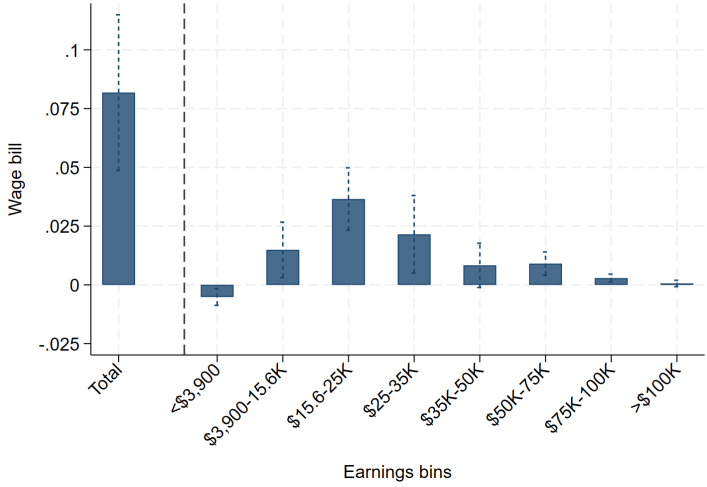
- Jobs paying less than \$4,000/year (and largely <\$1,000/year) account for all jobs lost.
- Very part time jobs held by teenagers effectively account for all job losses in these businesses.

With minor labor adjustments, firm wage bills rise



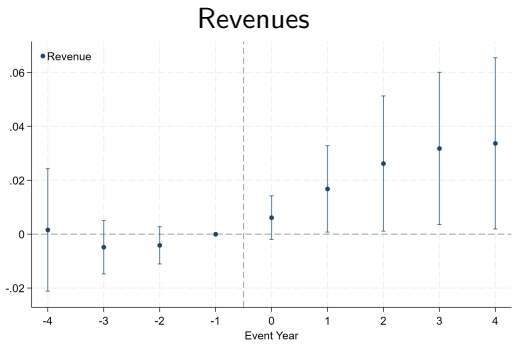
Wage bills increase by about 1.5% of baseline revenues (or 9% (s.e.=1.64)).

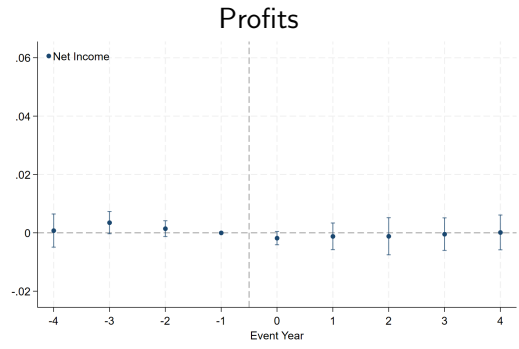
Increases for low earning workers not financed by higher earning workers



≈50% of increase from those earning roughly full-time at MW, remainder from part-time at MW and spillovers to higher earners.

Revenues increase sufficiently that average profits do not decline





Adding it up: Who bears the burden of the higher wages?

Cost burden to firm:		
Wage bill	0.0146***	(0.0034)
Financed by consumers:		
Revenue	0.0337**	(0.0162)
COGS	0.0132***	(0.0040)
Other deductions	0.0036	(0.0039)
Expensed investment	0.0007	(0.0005)
Financed by owners:		
Net Income	0.0001	(0.00304)
Net share by consumers:	100%	
Net share by owners:	0%	

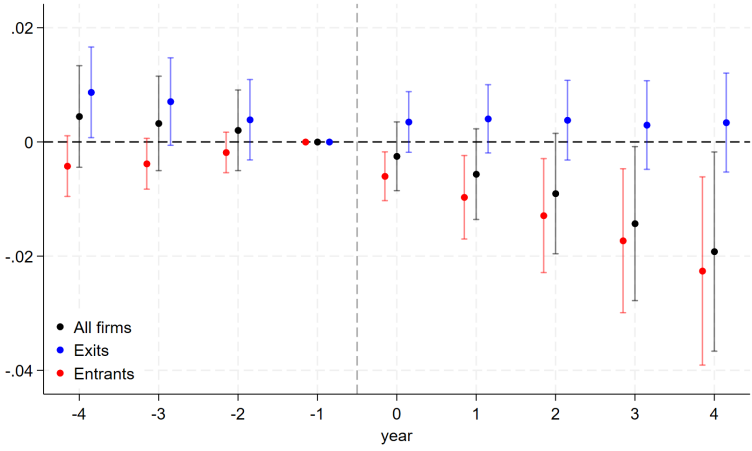
- Consumers fully finance new minimum wage burden for independent businesses ▸ more outcomes

Robustness, placebos and heterogeneity

- Robustness to controls used ▸ Figure
- Robustness: percent changes in firm outcomes ▸ Table
- Robustness: No meaningful changes in other firm deductions/costs ▸ Table
- Robustness: unbalanced panel, allowing firm exits ▸ Table
- Placebo: no changes in avg revenues, wage bills or profits in not highly exposed industries ▸ Figure
- Heterogeneity: similar responses for smaller and larger independent firms ▸ N workers ▸ Revenues ▸ Valadd/worker
- Heterogeneity: similar implications for firms w/ higher or lower share of low earning workers (similar own wage elasticities and consumers fully finance) ▸ sh variable costs ▸ sh workers

Sector-level impacts: Firm viability

Effect on the number of independent businesses in exposed industries



- Extensive margin response driven by lower entrance rates of new firms.

Sector-level impacts: Cost structure and productivity

	Wage bill/revenue		Material costs/revenue		Value added/worker	
	Low (Q1)	High (Q4)	Low (Q1)	High (Q4)	Low (Q1)	High (Q4)
All firms	0.000775	0.0227***	0.0184***	-0.00109	-0.0164***	0.0207***
	(0.00243)	(0.00419)	(0.0061)	(0.0023)	(0.00239)	(0.00693)
Entrants	-0.0219***	0.0274***	0.0329	-0.0246**	-0.0525***	0.0428***
	(0.00806)	(0.00722)	(0.0203)	(0.0121)	(0.0144)	(0.0140)
Incumbents	0.00121	0.0302***	0.0200***	0.00186	-0.00749***	0.0269***
	(0.00256)	(0.00460)	(0.0057)	(0.0030)	(0.00248)	(0.00899)

- Sector becomes more productive, with strong selection on productivity among entrants.
- Labor receives a higher share of revenues as a result.
- Productivity rises enough to leave profits unchanged for the average firm.

Individual Panel: A worker-level perspective

Individual Panel Analysis

Firm analysis tells us about effect of MW on *jobs* at highly exposed independent firms. Doesn't necessarily tell us about aggregate *worker* outcomes.

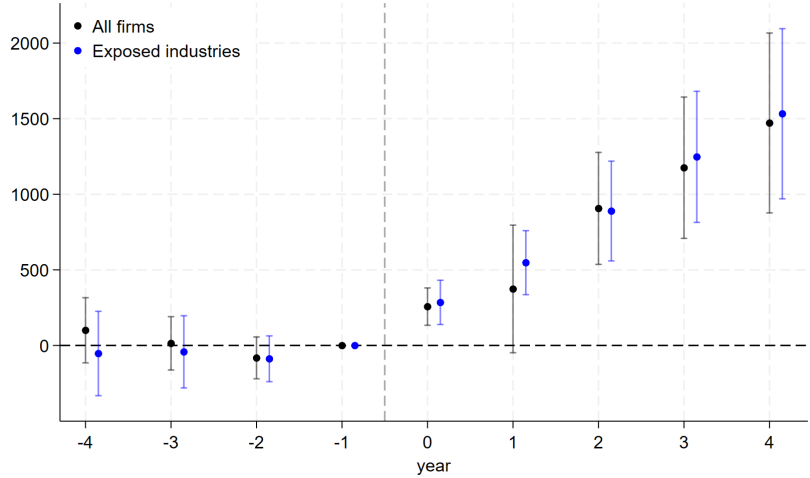
- Depressed firm entry, reduced part-time teen hiring and potentially dissimilar responses among corporations may lead to different impacts on workers.

Create two panels of potentially vulnerable individuals:

1. Low-earning workers: earning <\$20,000 in *t-1* and <\$25,000 in year *t-2* (need not work in *t-2*)
   - 2% random sample of workers at all firms (including large corporations) and all industries
   - Shows effects on earnings and employment of typical low-wage workers, but does not capture the impacts on worker entry.
2. Young individuals: ages 15-26 years old in *t-1*, *whether working in that year or not*
   - Captures entry and earnings of less experienced workers, who may lose their first foothold in the workforce.

▸ sum stats

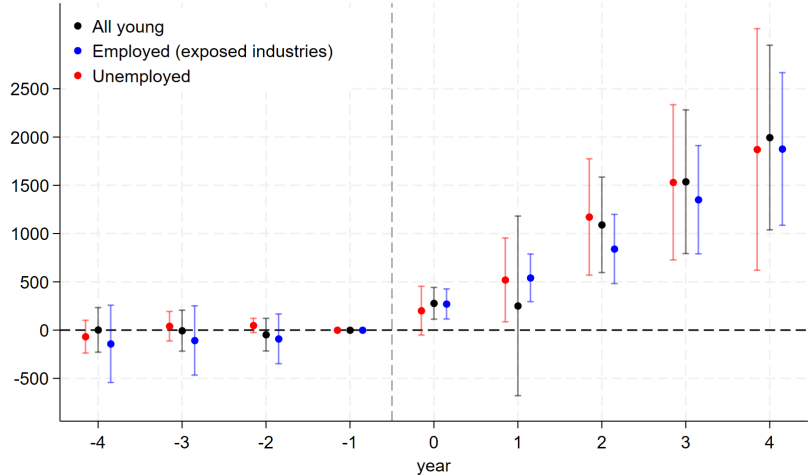
Effects on worker earnings for typical low earning workers



- Baseline average earnings: All=$8,250; Exposed=$7,760

▸ Placebo

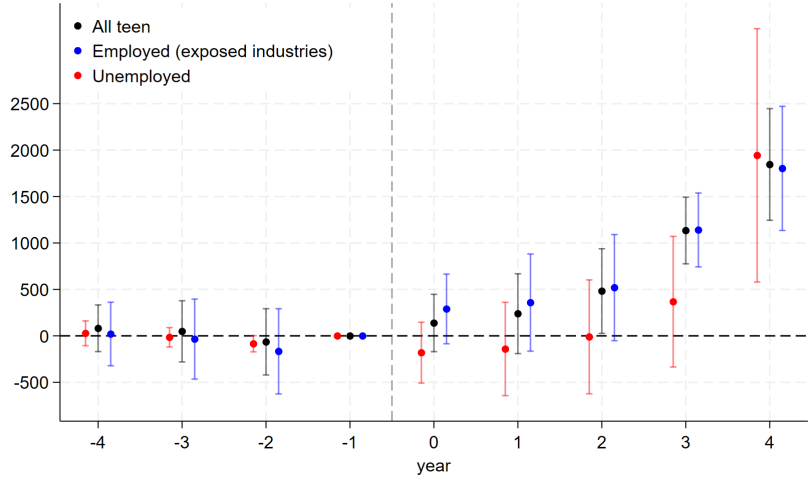
Effects on earnings for young workers and (baseline) non-workers



- Baseline average earnings: All=$16,150; Exposed=$11,370

▸ Placebo

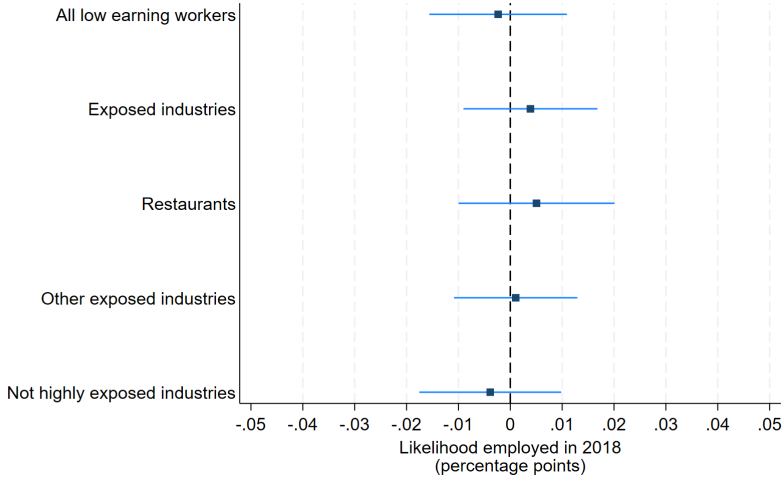
Effects on earnings for teen workers and (baseline) non-workers



- Baseline average earnings: All=$5,570; Exposed=$5,560

▸ Placebo

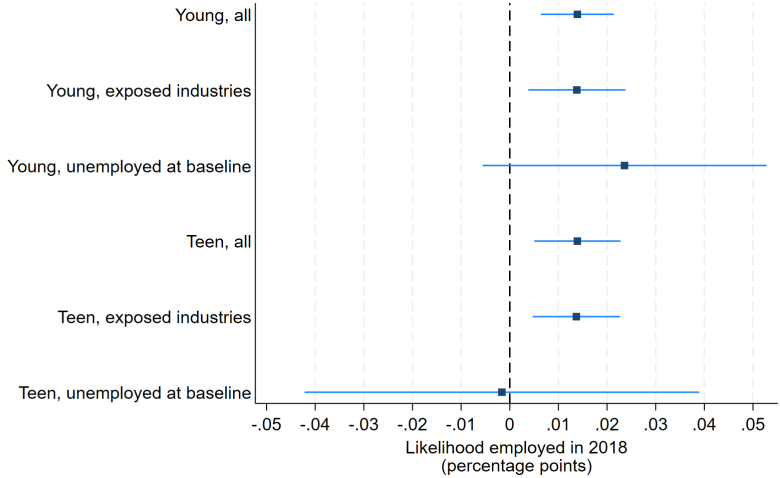
Effects on the probability of employment - Low earning workers



- Low earning workers no less likely to be employed in a given year, 4 years out

▸ Placebo

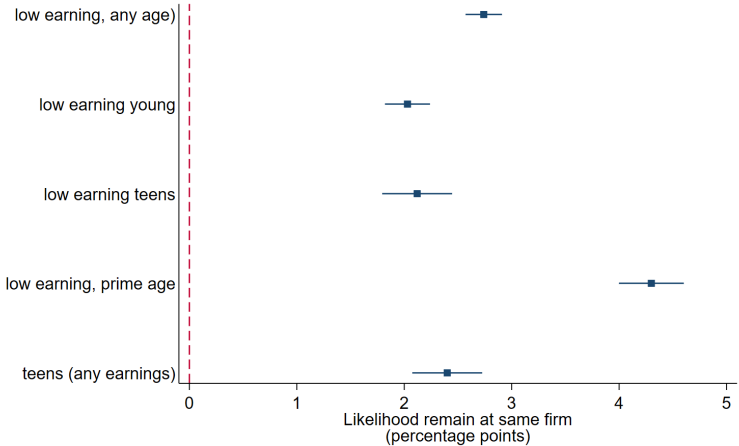
Effects on the probability of employment in a given year - Young and Teens



- Young and teen individuals no less likely to be employed in a given year, 4 years out

▸ Placebo

Increased worker retention at independent firms in exposed industries



- Increased retention rates 2 years after MW increases.
- Baseline retention rate (control group): 31.4% (all); 25% young; 22% teen

Conclusion

Independent businesses are, on average, able to accommodate increases in the minimum wage by raising enough new revenue such that

- Modest adjustments to labor force
- Consumers fully finance new labor costs, and owners' profits are unchanged

This does not mean that there are no losers:

- Reduction in total firms through lower entrance of new independent firms in exposed industries

But, as a result, there is selection on productivity such that:

- Entering firms and remaining firms are more productive.
- Workers receive a higher share of sector revenues.

Confirmed by worker-level analysis that also shows low-earning and young workers:

- Have substantially higher earnings and are no less likely to be employed after the MW increases

▸ Model Discussion