

Small Business and the Minimum Wage

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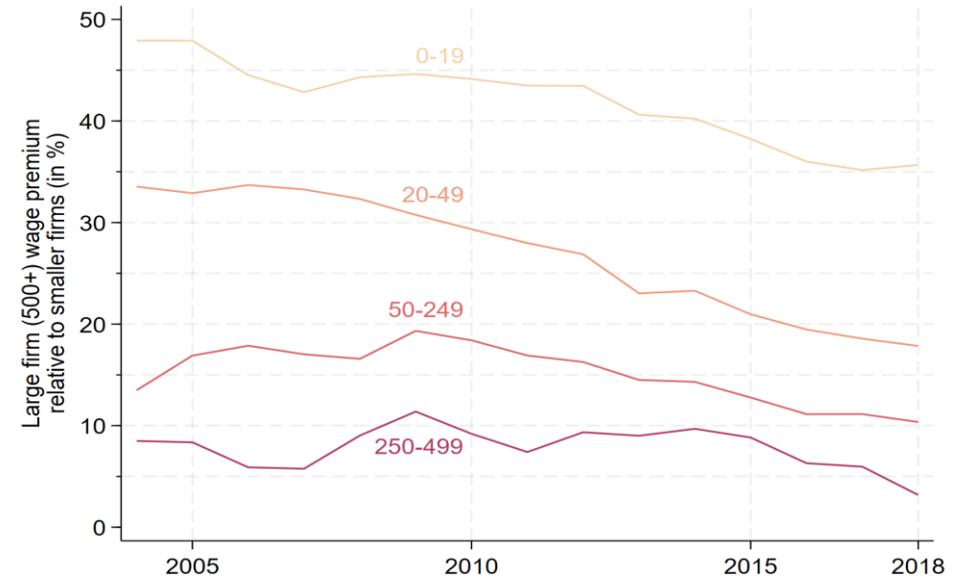
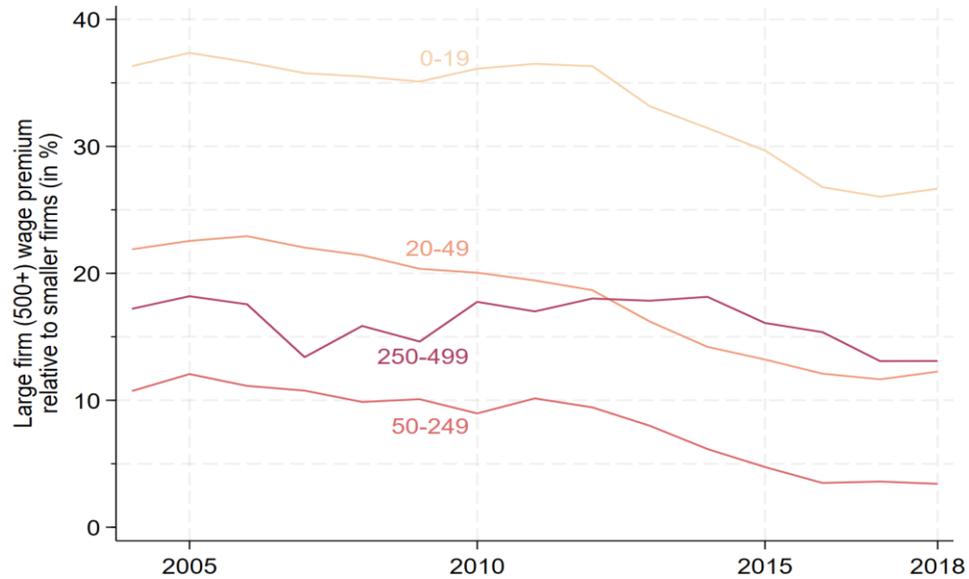
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Small businesses and the minimum wage

- **We examine MW effects on pay, employment & no. of establishments by employer size**
- **Conventional wisdom**
 - Independently-owned small restaurants & retail stores cannot afford to pay same wage as larger businesses
 - So they are more affected by MWs than are larger businesses
- **But growth of large restaurant chains & retail giants**
 - Which also pay low wages, because of greater monopsony power over workers (Wiltshire 2002)
 - If MWs overcome this monopsony power, wage increases could be similar to those among small businesses
- **Size-wage premium in low wage industries has been falling**

Size-wage premium in low-wage industries

- Declining in restaurants, grocery stores and general merchandise stores
- But remain substantial



We conduct a causal analysis of MW effects

- In all restaurants, fast food, grocery stores & general merchandise stores— the largest lowest-wage 3-digit industries
- And in all other low-wage industries; and among exposed groups: ages 14-18, ages 19-21
- Data: *Quarterly Workforce Indicators* – QWI, 1990 to 2017
- We examine full range of employee bin sizes
<20, 20-49, 50-99, 100-249, 259-500, >500
- Method: Stacked event study

Preview of main results

- **In restaurants, grocery and merchandise stores, other low wage industries & among 19-21s**
 - Generally **similar** effects on wages across size bins
 - No significant employment effects in any size bin
- **For 14-18s, modest employment decline in smaller businesses**
 - On a small base; teens account for <2 percent of all worker hours
 - Estimate confounded by growth of state merit scholarship programs
 - These cause teens to reduce their work hours (labor supply, not demand)

Main data and sample

- **QWI:** Quarterly earnings and employment data,
 - Available from 1990 on for every state
- **Administrative data** from 10.7 million establishments
 - Available for detailed industries
 - And by worker age and education (but not both)
- **Weekly earnings measure**
 - Small variation in weekly hours
- **390 qualifying MW events**
 - Controls for 171 additional small events

Descriptive statistics 2017, QWI

	All Workers	Industry 722	Industry 445	Age 14-18	Age 19-21
Employment	2 432 338	229 474	60 124	58 748	119 843
0-19	19 %	21 %	15 %	21 %	17 %
20-49	10 %	19 %	7 %	16 %	11 %
50-249	15 %	19 %	9 %	18 %	15 %
250-499	6 %	5 %	3 %	6 %	5 %
500+	50 %	35 %	67 %	40 %	51 %
Earnings (\$)	940	329	441	142	270
0-19	695	280	343	129	250
20-49	786	319	394	139	259
50-249	885	345	414	150	285
250-499	950	328	447	151	295
500+	1 089	361	474	148	273

Method: stacked event study

- Conduct a standard event study of each individual event, then stack them to compute an “average” effect
- Not affected by D-in-D concerns regarding staggered, repeated and unequal treatments
- We check for pre-trends, test for effects among higher-paid workers (>2.5 MW) and conduct other robustness tests

Stacked event study specification

$$y_{sqe} = \sum_{\tau=-2}^4 \alpha_{\tau} I_{sqe}^{\tau} \Delta m w_{sqe} + \mu_{se} + \mu_{qe} + \omega_{sqe} + \epsilon_{sqe}$$

- y = average weekly earnings in state s and quarter q and duplicated for each event e
- τ = event time, α = treatment effect
- I indicates whether the event e happened in state s and quarter q
- $\mu_{se} + \mu_{qe}$ are the event-specific state and time fixed effects
- ω_{sqe} control for the log difference in confounding events

Main results, restaurants (NAICS 722)

		<i>Firm size</i> →					
		All	0-19	20-49	50-249	250-499	500+
Weekly earnings	Log Minimum Wage	0.15 (0.02)	0.14 (0.02)	0.16 (0.02)	0.16 (0.02)	0.25 (0.04)	0.12 (0.02)
	N (event-quarter-state)	325884	325884	325884	320702	157944	274635
Employment	Log Minimum Wage	-0.02 (0.02)	-0.03 (0.03)	-0.05 (0.03)	-0.00 (0.05)	-0.16 (0.14)	0.05 (0.03)
	N (event-quarter-state)	325884	325884	325884	320702	157944	274635
Group size		11.1 M	20 %	20 %	20 %	5 %	36 %

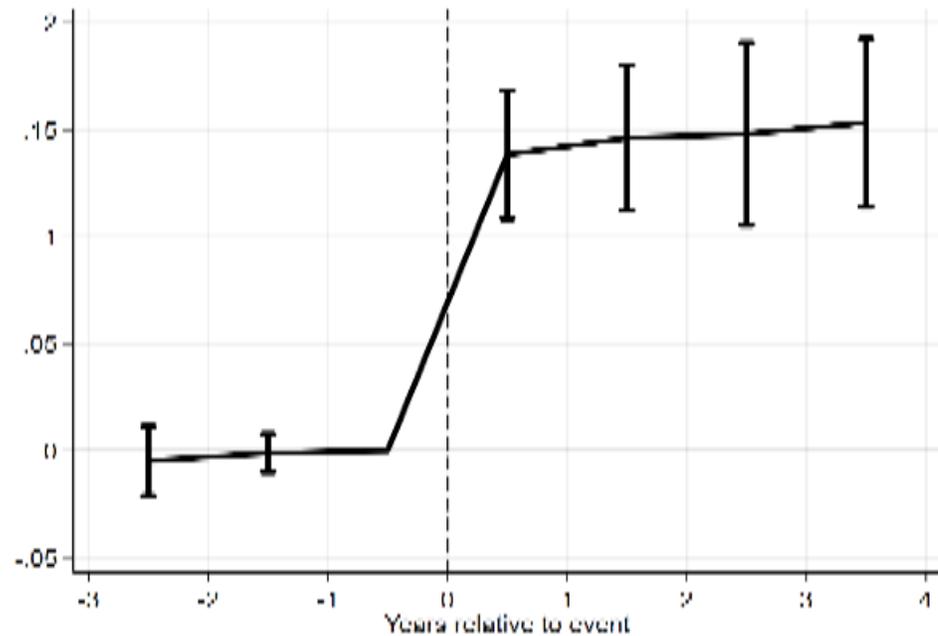
Notes: All dependent variables are in logs. Analysis at the event-quarter-state level, data based on QWI data. We exclude state and firm size combinations which potentially include fewer than ten firms. We find positive earnings effects for all firm size groups. Employment effects are muted and insignificant. The exception is the group of firms with 250-499 employees, where the employment effect is insignificant but with a modestly negative point estimate. There are relatively few firms in this size class. Weighted by state level population. Standard errors are clustered at the state level and shown in parentheses. Replication tag: #ses-qwi722-baseline.

Main results, fast food restaurants (7222), 1990-2015

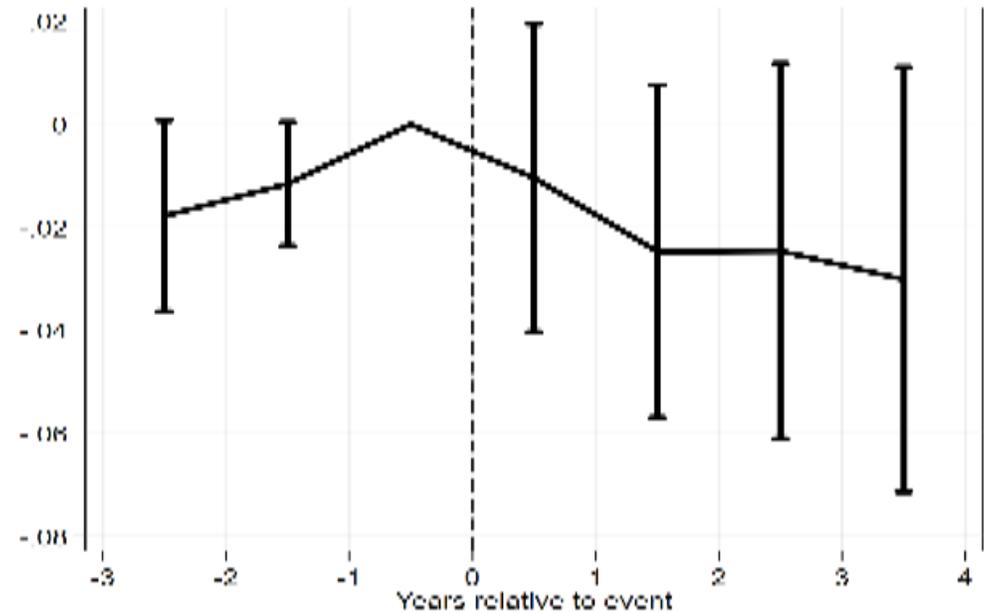
		<i>Firm size</i> →					
		All	0-19	20-49	50-249	250-499	500+
Weekly earnings	Log Minimum Wage	0.15 (0.03)	0.18 (0.03)	0.18 (0.03)	0.13 (0.03)	0.20 (0.08)	0.10 (0.04)
	N (event-quarter-state)	272409	272409	268024	218220	85916	191606
Employment	Log Minimum Wage	-0.04 (0.03)	-0.01 (0.05)	-0.01 (0.08)	-0.09 (0.07)	-0.09 (0.15)	0.00 (0.07)
	N (event-quarter-state)	272409	272409	268024	218220	85916	191606
Group size in 2014Q1		4.2 M	20 %	14 %	20 %	9 %	37 %

Restaurants, event study and pre-trend tests

Earnings



Employment



Main results, grocery stores (NAICS 445)

<i>Firm size</i> →		All	0-19	20-49	50-249	250-499	500+
Weekly earnings	Log Minimum Wage	0.03 (0.02)	0.11 (0.02)	0.09 (0.03)	0.06 (0.05)	0.20 (0.00)	-0.00 (0.03)
	N (event-quarter-state)	347658	347658	326978	178938	13858	265926
Employment	Log Minimum Wage	0.00 (0.05)	-0.02 (0.04)	-0.06 (0.07)	0.10 (0.09)	0.42 (0.00)	0.05 (0.05)
	N (event-quarter-state)	347658	347658	326978	178938	13858	265926
Group size		3.0 M	14 %	7 %	9 %	3 %	67 %

Notes: All dependent variables are in logs. Analysis at the event-quarter-state level, data based on QWI data. We exclude state and firm size combinations which potentially include fewer than ten firms. We find positive earnings effects for all firm size groups. Employment effects are muted and insignificant. The exception is the group of firms with 250-499 employees, where the employment effect is insignificant but with a modestly negative point estimate. There are relatively few firms in this size class. Weighted by state level population. Standard errors are clustered at the state level and shown in parentheses. Replication tag: #ses-qwi445-baseline.

Grocery & general merchandise stores (445+522)

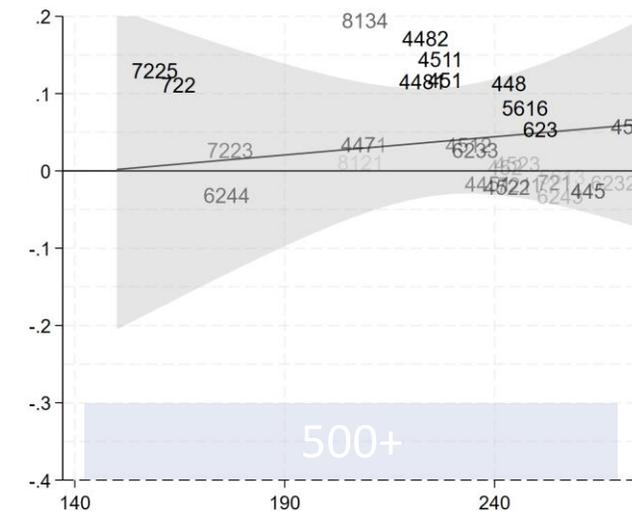
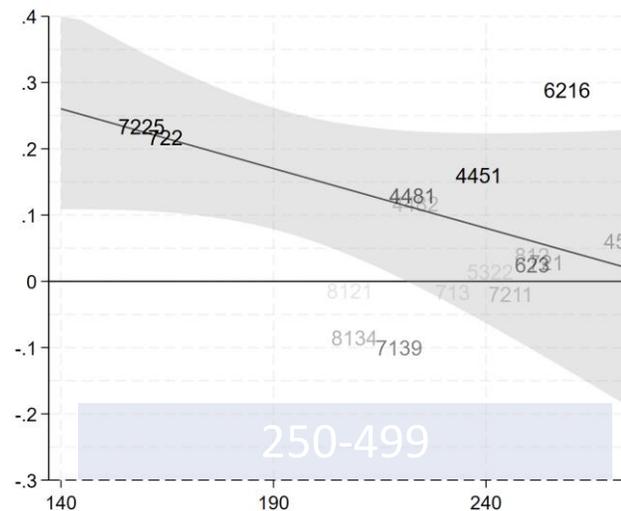
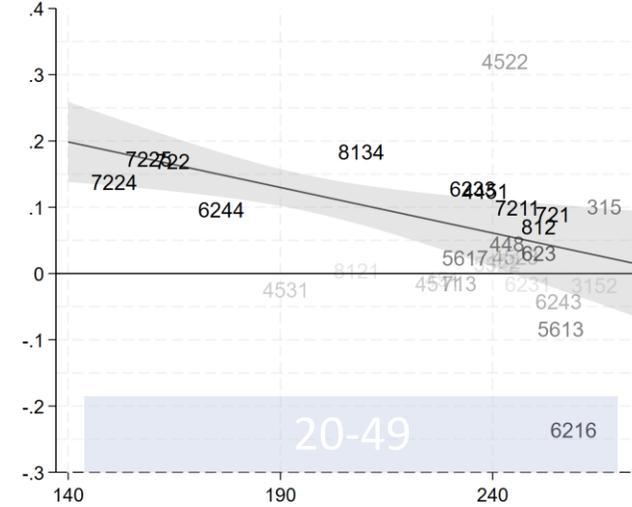
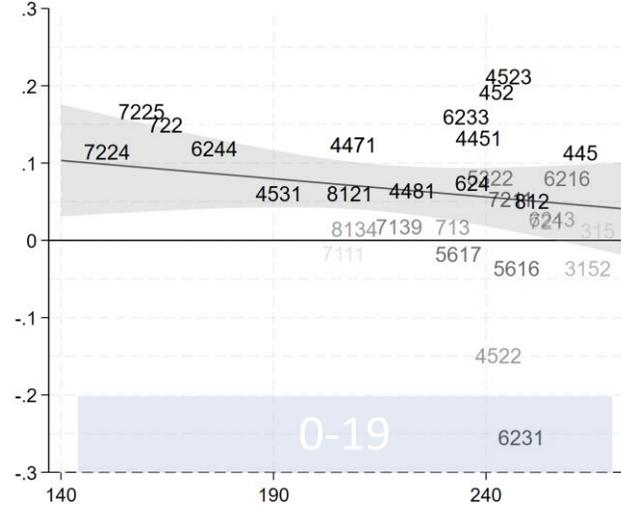
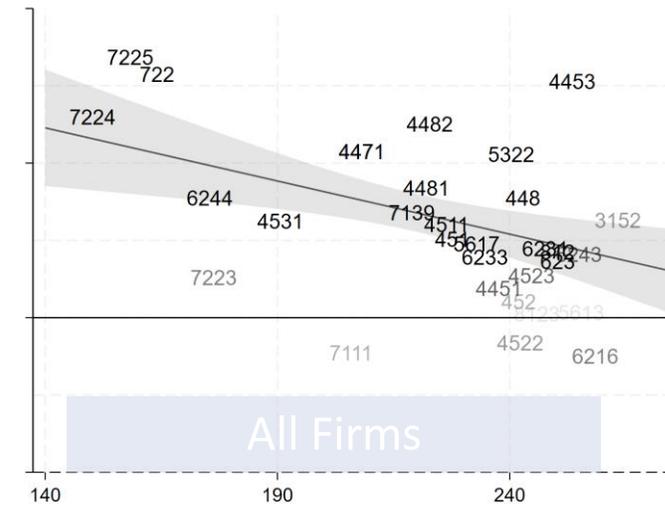
		<i>Firm size</i> →					
		All	0-19	20-49	50-249	250-499	500+
Weekly earnings	Log Minimum Wage	0.01 (0.02)	0.12 (0.02)	0.10 (0.03)	0.04 (0.05)	0.26 (0.00)	-0.00 (0.02)
	N (event-quarter-state)	347658	347658	331712	185207	13858	343165
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Employment	Log Minimum Wage	-0.00 (0.02)	-0.03 (0.04)	0.04 (0.08)	0.09 (0.09)	0.39 (0.00)	-0.02 (0.02)
	N (event-quarter-state)	347658	347658	331712	185207	13858	343165

Notes: All dependent variables are in logs. Analysis at the event-quarter-state level, data based on QWI data. We exclude state and firm size combinations which potentially include fewer than ten firms. We find positive earnings effects for all firm size groups. Employment effects are muted and insignificant. The exception is the group of firms with 250-499 employees, where the employment effect is insignificant but with a modestly negative point estimate. There are relatively few firms in this size class. Weighted by state level population. Standard errors are clustered at the state level and shown in parentheses. Replication tag: #scs-qwi452p445-baseline.

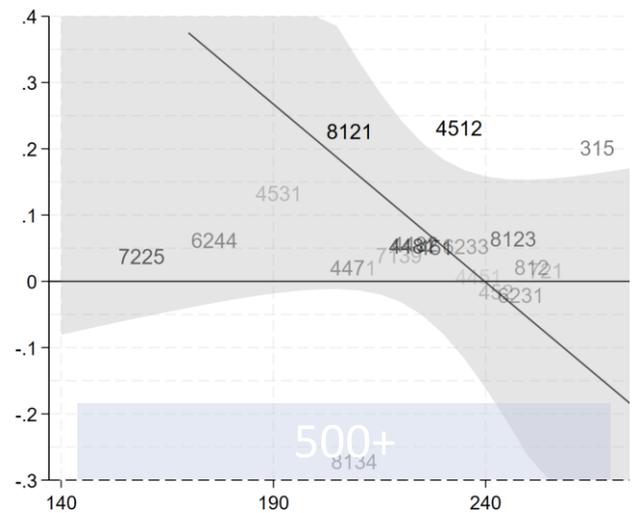
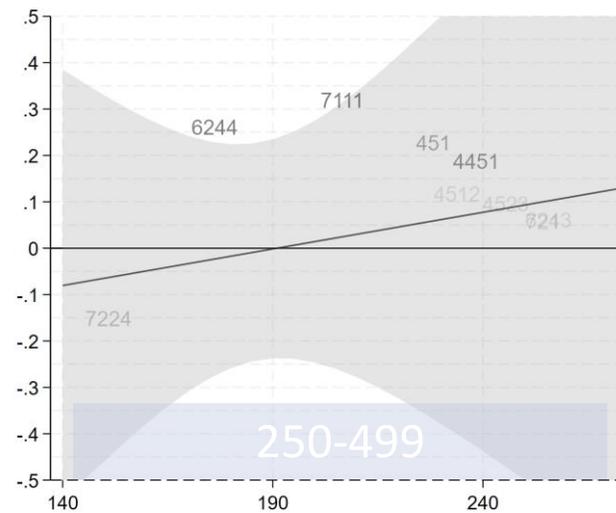
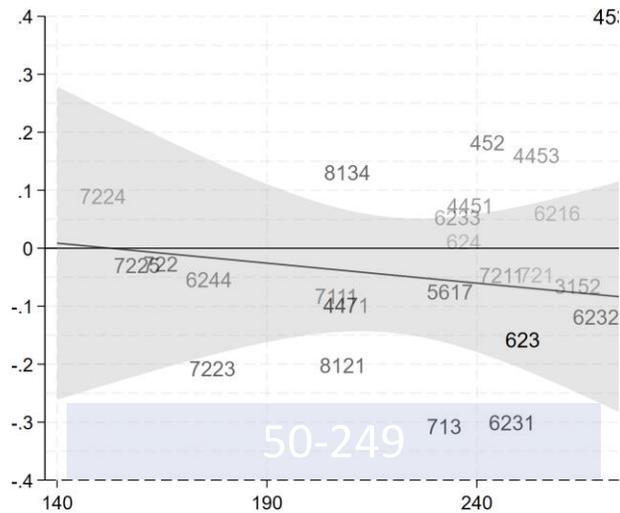
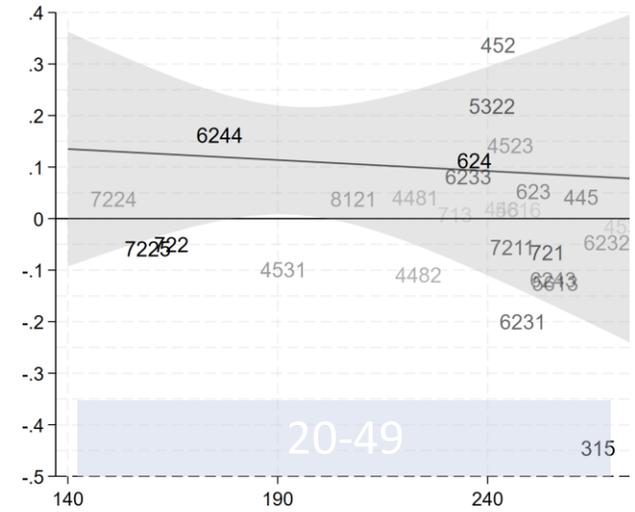
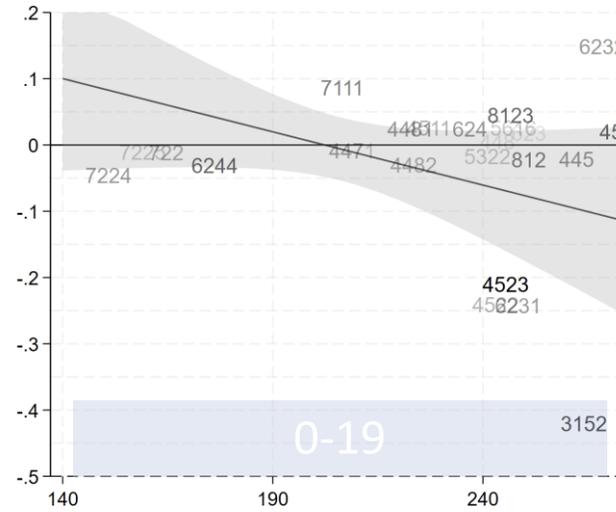
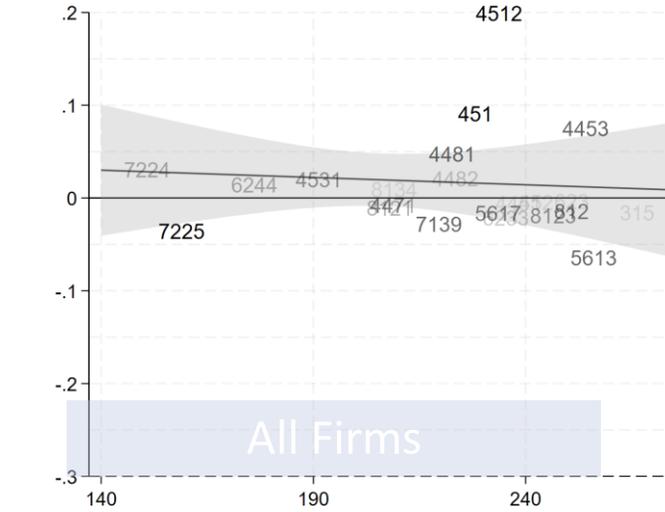
Full set of low-wage industries

- Restaurant, grocery store & general merch. stores account for about 36 percent of all MW workers
- We look also at all 3 and 4 digit industries with wage $< 2 \times$ 1990 federal MW (\$3.30) and $> 100K$ employees in 1990
- Sample = 31 low-wage industries
- Larger wage effects in low-wage industries, no wage effects in firms > 500 employees, suggesting less monopsony power in these other industries
- No relationship between firm size and employment in these industries

Full set of low-wage industries, earnings



Full set of low-wage industries, employment



Robustness tests: County Business Patterns

- Annual administrative data, March 12 reference week only
- Size bins for 0-9 to >249
- And number of establishments
- Same results as with QWI, and **no effect on number of establishments**

Robustness tests, restaurants CBP

Table E5. Stacked event study, multiple firm size groups.
Food services sector (NAICS 722), 1990-2018. *CBP dataset.*

		<i>Firm size</i> →	All	1-19	20-49	50-99	100-249
Weekly earnings	Log Minimum Wage		0.14 (0.02)	0.14 (0.03)	0.17 (0.03)	0.16 (0.03)	0.06 (0.04)
	N		125516	124768	121694	118419	82217
Employment	Log Minimum Wage		-0.02 (0.02)	-0.02 (0.10)	-0.00 (0.02)	-0.11 (0.06)	0.08 (0.08)
	N		125516	124768	122080	118419	82217
Establishment	Log Minimum Wage		-0.00 (0.02)	0.02 (0.02)	0.00 (0.02)	-0.08 (0.06)	-0.01 (0.08)
	N		125562	125562	125562	125562	103404

Notes: All dependent variables are in logs. Analysis at the event-year-state level, based on CBP data. We exclude state and firm size combinations which include fewer than ten firms. Weighted by state level population. Standard errors are clustered at the state level and shown in parentheses. Replication tag: `##scs-cbp722-baseline`.

Robustness tests, grocery stores CBP

Table E6. Stacked event study, multiple firm size groups.
Grocery stores (NAICS 445), 1990-2018. *CBP dataset.*

		<i>Firm size</i> →				
		All	1-19	20-49	50-99	100-249
Weekly earnings	Log Minimum Wage	0.05 (0.03)	0.04 (0.02)	0.11 (0.05)	-0.05 (0.05)	0.14 (0.06)
	N	125516	125449	117608	104715	75478
Employment	Log Minimum Wage	-0.01 (0.04)	-0.07 (0.04)	0.03 (0.07)	-0.09 (0.11)	0.16 (0.13)
	N	125516	125449	117608	104715	75689
Establishment	Log Minimum Wage	-0.01 (0.03)	0.01 (0.04)	0.04 (0.07)	-0.07 (0.08)	0.17 (0.11)
	N	125562	125562	125562	123100	113252

Notes: All dependent variables are in logs. Analysis at the event-year-state level, based on CBP data. We exclude state and firm size combinations which include fewer than ten firms. Weighted by state level population. Standard errors are clustered at the state level and shown in parentheses. Replication tag: #ses-cbp445-baseline.

Discussion of industry results

- **Similar wage effects across all employer size bins**
- **Despite lower wages in small businesses**
 - In small business: wage increases reflect cost increases
 - In larger businesses, MWs overcome monopsony power
- **No employment effects in any bin size**
 - Consistent with cost pass-throughs to prices
 - And reduced monopsony power

Ages 19 to 21

<i>Firm size</i> →		All	0-19	20-49	50-249	250-499	500+
Weekly earnings	Log Minimum Wage	0.10 (0.03)	0.09 (0.03)	0.09 (0.03)	0.10 (0.03)	0.14 (0.06)	0.12 (0.04)
	N (event-quarter-state)	325884	325884	325884	303269	116410	302821
Employment	Log Minimum Wage	-0.03 (0.02)	-0.03 (0.02)	-0.02 (0.02)	-0.04 (0.03)	-0.04 (0.05)	-0.01 (0.03)
	N (event-quarter-state)	325884	325884	325884	303269	116410	302821
Group size		5.7 M	16 %	11 %	15 %	5 %	53 %

Notes: All dependent variables are in logs. Analysis at the event-quarter-state level, data based on QWI data. We exclude state and firm size combinations which potentially include fewer than ten firms. Weighted by state level population. Standard errors are clustered at the state level and shown in parentheses. Replication tag: #ses-qwi1921-baseline.

Ages 14 to 18

<i>Firm size</i> →		All	0-19	20-49	50-249	250-499	500+
Weekly earnings	Log Minimum Wage	0.20 (0.04)	0.15 (0.04)	0.26 (0.03)	0.21 (0.04)	0.38 (0.09)	0.20 (0.03)
	N (event-quarter-state)	325884	325884	323820	228008	31598	229457
Employment	Log Minimum Wage	-0.08 (0.06)	-0.10 (0.05)	-0.10 (0.06)	-0.19 (0.07)	-0.17 (0.28)	-0.01 (0.10)
	N (event-quarter-state)	325884	325884	323820	228008	31598	229457
Group size		2.7 M	18 %	15 %	18 %	6 %	44 %

Notes: All dependent variables are in logs. Analysis at the event-quarter-state level, data based on QWI data. We exclude state and firm size combinations which potentially include fewer than ten firms. Weighted by state level population. Standard errors are clustered at the state level and shown in parentheses. Replication tag: #ses-qwi1418-baseline.

Discussion of 19-21 and 14-18 results

- **Wage effects similar across employer size bins, larger for 14 to 18s**
- **Employment effects**
 - 19-21s no employment effect
 - versus 14-18s, small employment decline (among firms <250)
- **Do MWs encourage teens <18 to stay in school and work less?**
 - MWs reduce HS dropout rate among low SES but not high SES (Smith 2021)
- **Since 1988 25 states have introduced college scholarship programs**
 - Merit-based (GPA) scholarships reduce teen labor supply
 - Reduce teen LFPR by 3 to 6 percent (Frisvold & Pitt 2018)
- **If supply effect, small decline in teen employment is a MW benefit, not a cost**

Conclusions

- **Conventional wisdom needs updating**
 - MW effect on wages are not higher in low-wage small businesses
 - Little evidence of employment effects in any size bin
- **Small employment decline among teens**
 - May be a benefit, not a cost of MWs
- **Summary: minimum wages do not create disemployment among small businesses**

Thank you!

- Comments highly appreciated!
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- Full paper is available at:
- www.irl.berkeley.edu/cwed/minimumwages