

# How Does Declining Worker Power Affect Investment Sensitivity to Minimum Wage?

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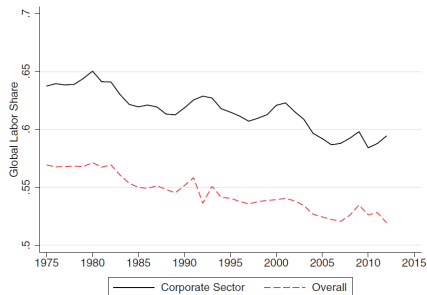
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ABFER 9th Annual Conference

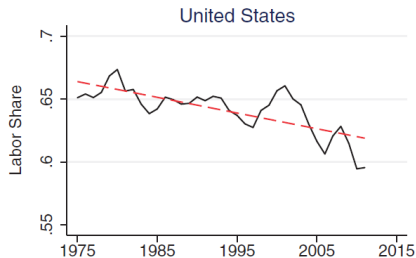
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# Declining Labor Share of National Income

## ● Global (59 Countries)



## ● United States



† Source: Figures 1 and 2 from Karabarbounis and Neiman (QJE, 2014)

## ● The decline has been the focus of much public and academic scrutiny

- ✓ Important to understand income and wealth inequality, slowing income growth, and the loss of consumer purchasing power
- ✓ *Stansbury and Summers (2020)* propose *Declining Worker Power Hypothesis* as a unified explanation for many broad **macroeconomic** trends in the U.S.

- **Weakening worker power vis-a-vis their employers**

- ✓ Significant decline in unionization (*Açıkgöz and Kaymak, 2014*)
- ✓ Increased employer bargaining power due to improved outside options
  - capital-biased technological advances / automation (*Acemoglu and Restrepo, 2018*)
  - a decline in the relative price of capital (*Karabarbounis and Neiman, 2014*)
  - substituting labor from low-wage countries (*Elsby, Hobijn, and Sahin, 2013*)
  - domestic-outsourcing (contracting out) workers (*Goldschmidt and Schmieder, 2017*)
- ✓ Emergence of “superstar firms” (*Autor, Dorn, Katz, Patterson, and Van Reenen, 2017, 2020*)  
∄ Weakening worker power

- **Our focus is microeconomic implications of declining worker power**

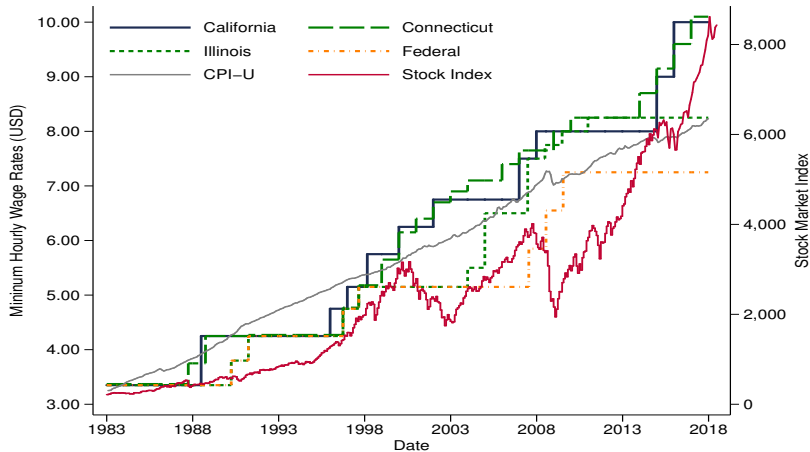
- ✓ By examining the extent to which declining worker power has affected firm-level investment decisions in response to a labor cost shock
- ✓ As worker power declines, firms are less constrained in making workforce adjustments and corporate investment becomes less sensitive to shocks to labor costs

- **Investment-wage sensitivity (IWS) has disappeared over time**
  - ✓ For 1984–2000, IWS is **-0.038\*\*\***; for 2001–2017, it is **0.001**.
  - ✓ 15-year rolling window regressions confirm this pattern with a structural break year of 1999.
- **Microeconomic implications of declining worker power explaining  $\Delta$ IWS**
  - (a) Easier access to cheap labor
  - (b) Increased Chinese import competition
  - (c) Technological change and automation
  - (d) Weakening union power

→ Firms more exposed to factors driving weakening worker power have become less constrained in responding to MW shocks (i.e., IWS moving toward zero). [Summary Figures](#)
- **Cost-benefit analysis of MW increase to workforce: Counterfactual analysis**
  - ✓ Overlooked effect of MW through investment cuts → Net cost for pre-2000 period
  - ✓ Identify a sizeable group of firms with net cost for post-2000 period

- **Historical changes in minimum wages for non-farm private sector employment under state laws**
  - ✓ For 1983 to 2014, obtained from Tax Policy Center (sourced from the Wage and Hour Division of the US Department of Labor and from the *Monthly Labor Review* by the Bureau of Labor Statistics)
  - ✓ For 2015-2017, hand-collected from the US Department of Labor
- **Sample selection strategy following Almeida, Campello and Galvao (2010)**
  - ✓ Compustat firms from 1984 to 2017
  - ✓ Eliminate observations from financial institutions
  - ✓ Discard firm-years
    - (i) that display asset or sales growth exceeding 100%
    - (i) of which capital is less than \$10 million
    - (ii) that have negative *Tobin's q*

# Minimum Hourly Wage Across some U.S. States, 1983–2017



# Identification Strategy I: Investment-Wage Sensitivities (IWS)

## ● Institutional Details

- ✓ Fair Labor Standards Act (FLSA) contains the federal MW provisions. In addition, many states have their own MW laws.
- ✓ Under Section 18 of the FLSA, the employee is entitled to the higher of the two standards.

## ● Identification: Staggered State-level Changes in MW

- ✓ Assumption: changes in the state level MW are exogenous to individual firm outcomes
- ✓ To ensure, we take further steps based on each state's adjustment mechanisms for MW:
  - (i) indexing MW to inflation → exclude all the firms headquartered in such states
  - (ii) legislatively scheduled increments → against finding a negative relation
  - (iii) setting MW at the federal rate → isolate the effect of unobservable state-level shocks to the extent that federal MW policy is orthogonal to the state-level economic conditions

## ● Estimation: Standard Investment Regressions (e.g., Fazzari et al., 1988)

$$\frac{I_{i,s,t}}{K_{i,s,t-1}} = \alpha_i + \alpha_t + \beta_1 \text{Tobin}'s\ q_{i,s,t-1} + \beta_2 \frac{CF_{i,s,t}}{K_{i,s,t-1}} + \beta_3 w_{i,s,t-1} + \beta_4 X_{i,s,t-1} + \epsilon_{i,s,t}$$

where  $i$ ,  $s$ , and  $t$  index firms, states, and years;  $w$  indicates the minimum hourly wage rate;  $X$  includes GDP growth rates, log of population, and unemployment rates.

# Descriptive Statistics

Variables	Mean	Median	Std.Dev.	# of Obs.
<u>Firm-Year-Level Data</u>				
<i>Investment</i>	0.245	0.185	0.217	59,096
<i>Cash Flow</i>	0.379	0.269	0.895	59,096
<i>Tobin's q</i>	1.641	1.331	0.978	59,096
<u>State-Year-Level Data</u>				
$w_{s,t-1}$ (\$)	5.307	5.150	1.535	1,190
$w_{s,t-1}$ (\$) (across-state variation)			0.248	
$w_{s,t-1}$ (\$) (within-state variation)			1.516	
<i>GDP Growth</i> (%)	2.576	2.400	2.801	1,190
<i>Population</i> (thousands)	5,687	3,506	6,736	1,190
<i>Unemployment</i> (%)	5.792	5.400	2.002	1,190



# Investment Sensitivity to Minimum Wage

- Full Sample, Pre-, and Post-2000

	Dependent Variable: $Investment_{i,s,t}$		
	Full Sample	1984 to 2000	2001 to 2017
	(1)	(2)	(3)
$w_{i,s,t-1}$	-0.017* (0.009)	-0.038*** (0.012)	0.001 (0.003)
$H_0: (2)[w_{i,s,t-1}] - (3)[w_{i,s,t-1}] = 0$		-0.039***	[12.54]
Firm and Year FEs / Controls	Yes	Yes	Yes
# of Firm-Year Obs.	59,096	31,408	27,688
Adjusted $R^2$	0.140	0.135	0.122

† Firm- and state-level controls: cash flow, Tobin's q, GDP growth rates, log of population, and unemployment rates

† In columns (1) and (2), a \$1 increase in minimum wage leads to a 6.9% (= 0.017 / 0.245) and 15.1% (= 0.038 / 0.252) decrease in investment rates, relative to the sample means.

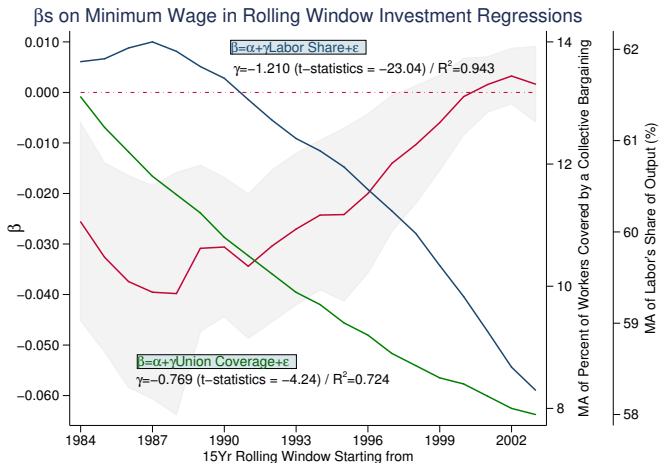
† Robustness: historical headquarters location

Placebo Tests

Measurement Error

Strict Exogeneity Assumption

# Investment Sensitivity to Minimum Wage Over Four Decades



t-statistics

Full Table

Analysis of Structural Breaks

- **Identification: Factors that Weaken Worker Power**

- (i) easier access to cheap labor → US-China bilateral agreement in 1999 (supply-driven shock to US labor markets)
- (ii) increased Chinese import competition → China's accession to WTO in 2001 (demand-driven shock to US labor markets)
- (iii) technological change and automation → share of routine-task labor
- (iv) weakening union power → the passage of Right-to-Work laws

# U.S. Firms' Access to Cheap Labor

## ● 1999 US-China Bilateral Agreement

- ✓ opened the Chinese economy to US multinational firms by improving contracting institutions
- ✓ enabled US firms to capture a greater share of the profits → opened up the Chinese labor market through potential investment
- ✓ weakens the bargaining power of US workers by increasing the outside options of the firms
- ✓ US firms' better access to cheap labor in China makes investment less sensitive to MW

## ● Estimation

$$\begin{aligned} \frac{I_{i,s,t}}{K_{i,s,t-1}} = & \alpha_i + \alpha_t + \beta_1 \text{Tobin}'s\ q_{i,s,t-1} + \beta_2 \frac{CF_{i,s,t}}{K_{i,s,t-1}} + \beta_3 w_{i,s,t-1} \\ & + \beta_4 \text{Agreement}_t \times w_{i,s,t-1} + \beta_5 \text{China97}_i \times \text{Agreement}_t \times w_{i,s,t-1} \\ & + \beta_6 \text{China97}_i \times w_{i,s,t-1} + \beta_7 \text{China97}_i \times \text{Agreement}_t + \beta_8 X_{i,s,t-1} + \epsilon_{i,s,t}, \end{aligned}$$

where  $i$ ,  $s$ , and  $t$  index firms, states, and years;  $\text{China97}_i$  is an indicator for firms having at least one subsidiary in China as of 1997;  $\text{Agreement}_t$  is an indicator for the time period after the agreement; the interaction terms of all controls with  $\text{China97}_i$  and  $\text{Agreement}_t$  are included.

- ✓ **NB: The outcome of interest is the change in the slope coefficient on minimum wage (i.e., IWS) captured by  $\beta_5$ .**

# U.S. Firms' Access to Cheap Labor (cont'd)

## ● US-China Bilateral Agreement in 1999

Dependent Variable →	<i>Investment</i> <sub><i>i,s,t</i></sub>	
	Two Groups	Three Groups
	(1)	(2)
$w_{i,s,t-1}$	-0.017** (0.008)	-0.016* (0.008)
$Agreement \times w_{i,s,t-1}$	0.005 (0.005)	0.002 (0.006)
$China97 \times Agreement \times w_{i,s,t-1}$	0.035*** (0.010)	0.038*** (0.010)
$China04 \times Agreement \times w_{i,s,t-1}$		0.029** (0.014)
$China97 \times w_{i,s,t-1}$	-0.028*** (0.008)	-0.029*** (0.009)
$China04 \times w_{i,s,t-1}$		-0.015 (0.012)
Controls / Interaction of Controls / Firm and Year FEs	Yes	Yes
# of Firm-Year Obs.	59,096	59,096
Adjusted $R^2$	0.157	0.158

†  $China97 \times Agreement$  and  $China04 \times Agreement$  are not reported for brevity.

# U.S. Firms' Access to Cheap Labor (cont'd)

## ● US-China Bilateral Agreement in 1999

Dependent Variable →	<i>Investment<sub>i,s,t</sub></i>	
	Two Groups	Three Groups
	(1)	(2)
<u>Investment Sensitivity to Minimum Wage [t-stat]</u>		
Before (omitted group)	-0.017** [-2.14]	-0.016* [-1.98]
After (omitted group)	-0.012* [-1.92]	-0.014** [-2.34]
-----		
Before ( <i>China04</i> = 1)		-0.031** [-2.18]
After ( <i>China04</i> = 1)		0.000 [0.06]
-----		
Before ( <i>China97</i> = 1)	-0.045*** [-3.73]	-0.045*** [-3.71]
After ( <i>China97</i> = 1)	-0.005 [-0.86]	-0.005 [-0.96]

Figure IV.(a)

Figure V

China98

Fully Allowing for Entry

# U.S. Firms' Increased Exposure to Chinese Import Competition

## ● China's Accession to WTO in 2001

- ✓ intensify the import competition for US firms
- ✓ define exposure to imports from China as the log of the import penetration ratio (Bernard et al., 2006) if the industry is classified to be in the tradable sector (Mian and Sufi, 2014)

Dependent Variable →	<i>Investment<sub>i,s,t</sub></i>	
	OLS (1)	2SLS (2)
$w_{i,s,t-1}$	-0.025** (0.011)	-0.024** (0.010)
$WTO \times w_{i,s,t-1}$	0.013 (0.008)	0.012 (0.008)
$Exposure_{UC,i} \times WTO \times w_{i,s,t-1}$	0.019*** (0.006)	0.023*** (0.006)
$Exposure_{UC,i} \times w_{i,s,t-1}$	-0.008** (0.003)	-0.015*** (0.004)
$Exposure_{UC,i} \times WTO$	-0.048 (0.050)	-0.013 (0.074)
Controls / Interaction of Controls	Yes	Yes
Firm and Year FEs	Yes	Yes
# of Firm-Year Obs.	46,168	46,104
Adjusted $R^2$	0.151	0.152

# U.S. Firms' Increased Exposure to Chinese Import Competition (cont'd)

- China's Accession to WTO in 2001

Dependent Variable →	<i>Investment<sub>i,s,t</sub></i>	
	OLS	2SLS
	(1)	(2)
<u>Investment Sensitivity to Minimum Wage [t-stat]</u>		
Before ( <i>No Exposure</i> )	-0.025** [-2.35]	-0.024** [-2.30]
After ( <i>No Exposure</i> )	-0.013 [-1.59]	-0.012 [-1.57]
-----		
Before ( <i>High Exposure</i> )	-0.040*** [-4.45]	-0.047*** [-4.92]
After ( <i>High Exposure</i> )	0.006 [0.66]	0.001 [0.06]

Figure IV.(b)

Leaders vs. Laggards



# Technological Change and Automation

- Fraction of Routine-Task Labor Costs (Graetz and Michaels 2017; Zhang 2019)

Dependent Variable →	<i>Investment<sub>i,s,t</sub></i>	
	Dummy	Continuous
Exposure to Technological Change →	(1)	(2)
$w_{i,s,t-1}$	-0.018** (0.008)	-0.016* (0.009)
$Post \times w_{i,s,t-1}$	0.001 (0.008)	-0.001 (0.010)
$Exposure_{tech,i} \times Post \times w_{i,s,t-1}$	0.020*** (0.006)	0.073** (0.031)
$\bar{Exposure}_{tech,i} \times w_{i,s,t-1}$	-0.012** (0.005)	-0.049* (0.025)
<u>Investment Sensitivity to Minimum Wage [t-stat]</u>		
Before ( <i>Low Exposure</i> )	-0.018** [-2.17]	-0.019** [-2.19]
After ( <i>Low Exposure</i> )	-0.017** [-2.66]	-0.015** [-2.32]
Before ( <i>High Exposure</i> )	-0.030*** [-2.91]	-0.030*** [-3.10]
After ( <i>High Exposure</i> )	-0.009* [-1.89]	-0.010* [-1.88]
Firm and Year FEs / Controls / Interaction of Controls	Yes	Yes

†  $Exposure_{tech,i} \times Post$  is not reported for brevity.

Figure IV.(c)

## ● Passage of Right-to-Work (RTW) Laws

Dependent Variable →	<i>Investment<sub>i,s,t</sub></i>	
	(1)	States With Large Decline in Union Coverage Around the Adoption Year (2)
$w_{i,s,t-1}$	-0.013** (0.005)	-0.012** (0.005)
$RTW \times w_{i,s,t-1}$	0.026* (0.015)	0.011 (0.009)
$RTW \times Large\ Decline_{RTW} \times w_{i,s,t-1}$		0.043*** (0.009)
$Large\ Decline_{RTW} \times w_{i,s,t-1}$		0.002 (0.007)
Controls / Interaction of Controls	Yes	Yes
Firm and Year FEs	Yes	Yes
# of Firm-Year Obs.	37,111	37,111
Adjusted $R^2$	0.144	0.144

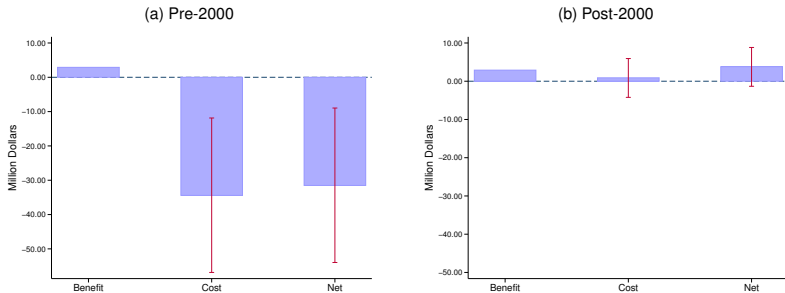
†  $RTW$  and  $RTW \times Large\ Decline_{RTW}$  are not reported for brevity.  $Large\ Decline_{RTW}$  is absorbed by firm fixed effects.

Figure IV.(d)

Large Decline in Union Coverage

# Cost-Benefit Analysis of Minimum Wage Increase to Workforce: Counterfactual Analysis

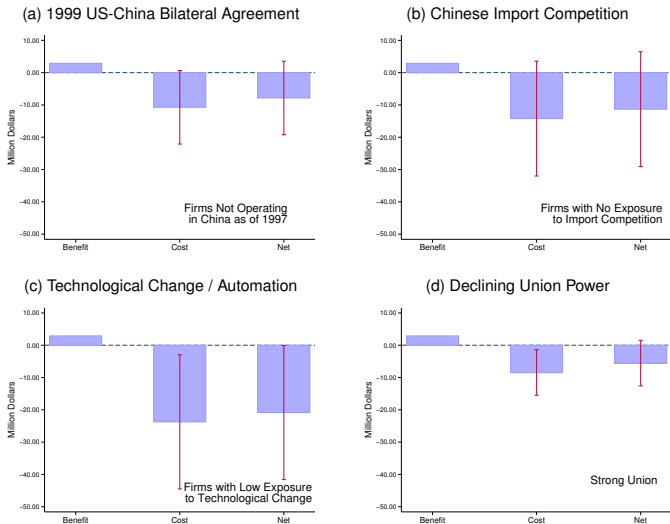
## ● Net Cost (Benefit) of Minimum Wage Increase to Workforce Illustration



Full Tables

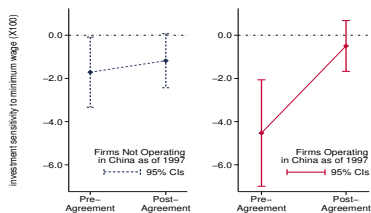
# Cost-Benefit Analysis of Minimum Wage Increase to Workforce: Counterfactual Analysis (cont'd)

## ● Net Cost (Benefit) of Minimum Wage Increase to Workforce: For Firms that are Subject to a Minimum Wage Shock

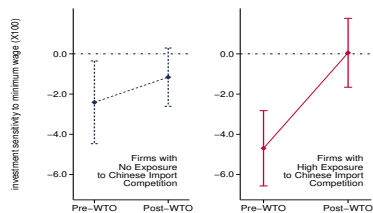


- **The continuing decline in labor share of national income in the U.S. since the 1980s has generated substantial interest and contention among academics, the press, and the public.**
- **Whereas the literature has mostly focused on the macroeconomic implications of weakening worker power, we study microeconomic impacts by examining the extent to which declining worker power has affected firm investment responses to a labor cost shock.**
- **The declines in investment-wage sensitivities over the past four decades are tied to forces that arguably have been driving the decline in worker power: globalization, technological change and the associated automation of the workplace, and weakening union power.**
- **Our findings on the microeconomic consequences of weakening worker power should be informative for workers, corporate managers, and policymakers.**

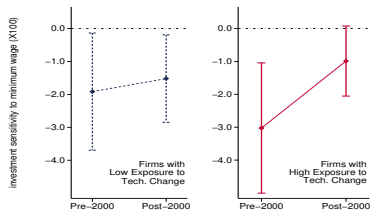
# Declining Worker Power and Changes in IWS



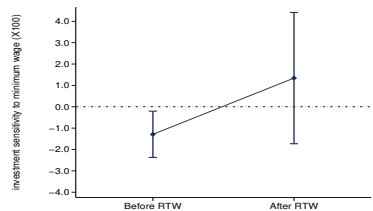
(a) 1999 US-China Bilateral Agreement



(b) Chinese Import Competition



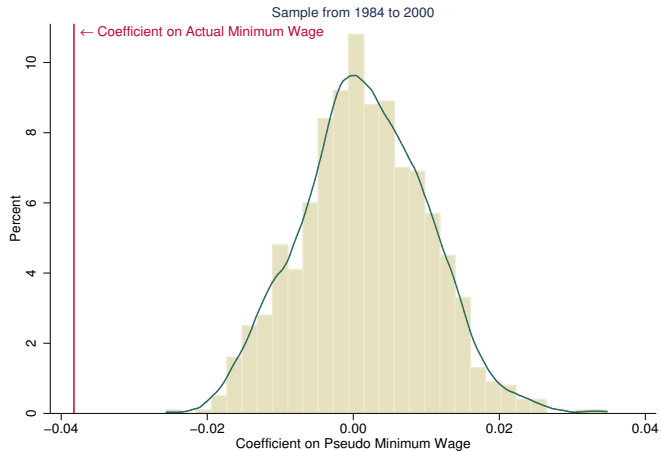
(c) Technological Change / Automation



(d) Declining Union Power: Right-to-Work (RTW) Laws

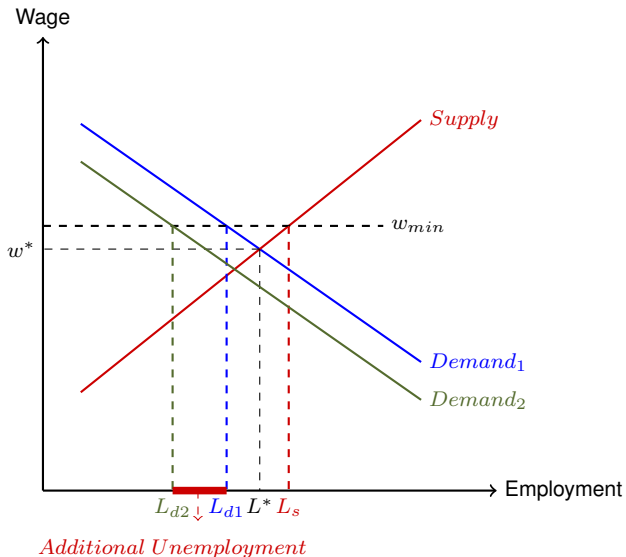
Return

# Robustness: Placebo Tests



Return

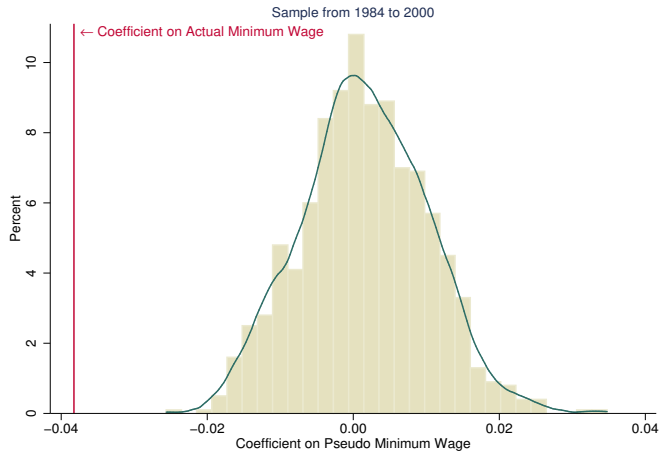
# Investment Cut and Unemployment: Unintended Consequences



Return



# Robustness: Placebo Tests



Return

- High-Order Cumulant Equations

	<i>Dependent Variable: Corporate Investment<sub>i,s,t</sub></i>			
	OLS-FE		EJW High-order Cumulant Estimator	
	Pre-2000	Post-2000	Pre-2000	Post-2000
	(1)	(2)	(3)	(4)
$w_{i,s,t-1}$	-.038*** (.012)	.001 (.003)	-.041** (.018)	.005 (.005)
Firm and Year FE / Controls	Yes	Yes	Yes	Yes
# of Firm-Year Obs.	31,408	27,688	31,408	27,688
Adjusted $R^2$	0.135	0.122		
$\rho^2$			0.257	0.268
$\tau_Q^2$			0.317*** (0.023)	0.322*** (0.023)

Return

# Robustness: Strict Exogeneity Assumption Tests

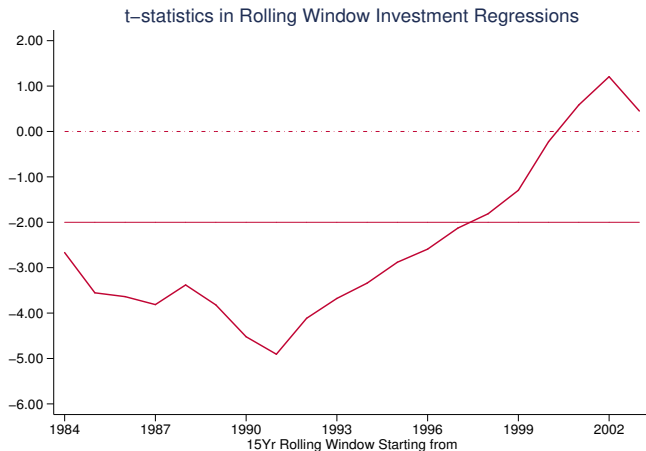
- **Wooldridge (2011) and Grieser and Hadlock (2019)**

*Dependent Variable: Corporate Investment  $i,s,t$*

	Minimum Wage and Corporate Investment			Strict Exogeneity Assumption Tests		
	Full Sample	1984 to 2000	2001 to 2017	Full Sample	1984 to 2000	2001 to 2017
	(1)	(2)	(3)	(4)	(5)	(6)
$w_{i,s,t-1}$	-0.017* (.009)	-0.038*** (.012)	.001 (.003)	-0.014* (.007)	-0.038*** (.009)	.004 (.003)
$w_{i,s,t}$				-0.004 (.006)	-0.001 (.010)	-0.003 (.005)
Firm and Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
# of Firm-Year Obs.	59,096	31,408	27,688	59,043	31,408	27,635
Adjusted $R^2$	.140	.135	.122	.140	.135	.122

Return

# Investment Sensitivity to Minimum Wage Over Four Decades: t-statistics



Return

# Time-Varying Effects of Minimum Wage on Investment

Sample Period		$\beta_3$	t-statistics
From	To	(Coefficient on $w_{i,s,t-1}$ )	
1984	1998	-0.026**	-2.667
1985	1999	-0.033***	-3.554
1986	2000	-0.037***	-3.638
1987	2001	-0.040***	-3.813
1988	2002	-0.040***	-3.380
1989	2003	-0.031***	-3.820
1990	2004	-0.031***	-4.521
1991	2005	-0.034***	-4.906
1992	2006	-0.030***	-4.115
1993	2007	-0.027***	-3.677
1994	2008	-0.024***	-3.340
1995	2009	-0.024***	-2.881
1996	2010	-0.020**	-2.592
1997	2011	-0.014**	-2.128
1998	2012	-0.010*	-1.813
1999	2013	-0.006	-1.296
2000	2014	-0.001	-0.224
2001	2015	0.002	0.585
2002	2016	0.003	1.206
2003	2017	0.002	0.451

Return

# Analysis of Structural Breaks

## • Single Known Break

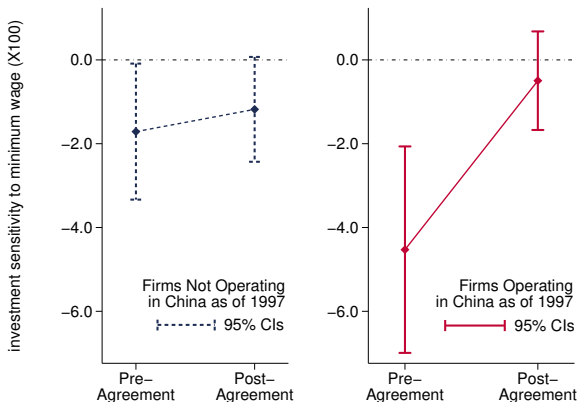
$$\frac{I_{i,s,t}}{K_{i,s,t-1}} = \alpha_i + \alpha_t + \beta_1 w_{i,s,t-1} + \beta_2 Z_{i,s,t-1} + d_t(k) [\beta_3 w_{i,s,t-1} + \beta_4 Z_{i,s,t-1}] + \epsilon_{i,s,t}$$



Return

# Declining Worker Power and Changes in Investment Sensitivity to MW

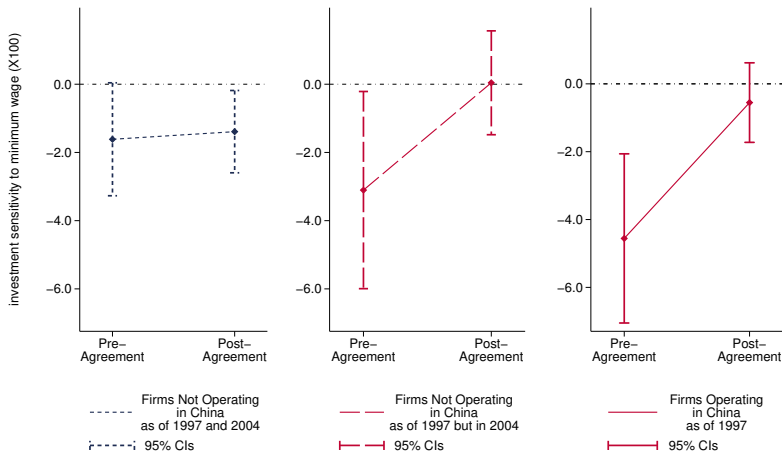
## ● 1999 US-China Bilateral Agreement: Two Groups



Return

# Declining Worker Power and Changes in Investment Sensitivity to MW

## ● 1999 US-China Bilateral Agreement: Three Groups



Return



# U.S. Firm's Access to Cheap Labor: Robustness I

## ● Identifying Treated Firms as of 1998

Dependent Variable:	<i>Investment<sub>i,s,t</sub></i>	
	Two Groups	Three Groups
	(1)	(2)
$w_{i,s,t-1}$	-0.018** (.008)	-0.017** (.008)
$Agreement \times w_{i,s,t-1}$	.006 (.006)	.003 (.006)
$China98 \times Agreement \times w_{i,s,t-1}$	.034*** (.007)	.036*** (.007)
$China04 \times Agreement \times w_{i,s,t-1}$		.033* (.016)
$China98 \times w_{i,s,t-1}$	-0.019*** (.006)	-0.020*** (.006)
$China04 \times w_{i,s,t-1}$		-.019 (.015)
<b>Investment Sensitivity to Minimum Wage [t-stat]</b>		
Before (baseline group)	-0.018** [-2.20]	-0.017** [-2.05]
After (baseline group)	-0.012* [-2.01]	-0.014** [-2.40]
Before ( $China04 = 1$ )		-0.036** [-2.19]
After ( $China04 = 1$ )		-.000 [-0.04]
Before ( $China98 = 1$ )	-0.037*** [-3.98]	-0.037*** [-3.92]
After ( $China98 = 1$ )	0.003 [0.75]	0.002 [0.62]

†  $China98 \times Agreement$  and  $China04 \times Agreement$  are not reported for brevity.

Return

# U.S. Firm's Access to Cheap Labor: Robustness II

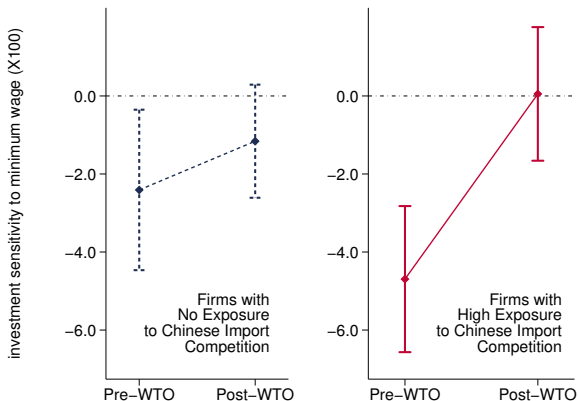
- Fully Allowing for Entry into China after the Agreement

Dependent Variable:	<i>Investment</i> <sub><i>i,s,t</i></sub>
	(1)
<i>w</i> <sub><i>i,s,t-1</i></sub>	-0.018** (.008)
<i>Agreement</i> × <i>w</i> <sub><i>i,s,t-1</i></sub>	.006 (.006)
<i>China</i> × <i>Agreement</i> × <i>w</i> <sub><i>i,s,t-1</i></sub>	.026*** (.009)
<i>China</i> × <i>w</i> <sub><i>i,s,t-1</i></sub>	-0.020*** (.007)
<u>Investment Sensitivity to Minimum Wage [t-stat]</u>	
Before (baseline group)	-0.018** [-2.19]
After (baseline group)	-0.012* [-2.02]
Before ( <i>China</i> = 1)	-0.038*** [-3.61]
After ( <i>China</i> = 1)	-0.006 [-1.02]

† *China* and *China* × *Agreement* are not reported for brevity.

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## ● Chinese Import Competition



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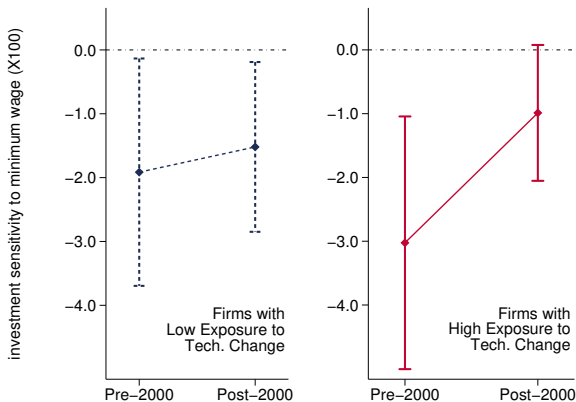
# U.S. Firms' Increased Exposure to Chinese Import Competition

- Industry Leaders vs. Laggards (Gutiérrez and Philippon 2017)

Dependent Variable →	<i>Investment<sub>i,s,t</sub></i>		
Leaders vs. Laggards Based on →	Tobin's q	Sales	Total Assets
	(1)	(2)	(3)
<u>Investment Sensitivity to Minimum Wage [t-stat]</u>			
Before ( <i>Laggards</i> )	-0.016** [-2.27]	-0.009 [-0.95]	-0.013 [-1.29]
After ( <i>Laggards</i> )	-0.017*** [-2.92]	-0.018** [-2.56]	-0.019** [-2.62]
-----			
Before ( <i>Leaders</i> )	-0.031*** [-3.16]	-0.037*** [-3.58]	-0.035*** [-3.73]
After ( <i>Leaders</i> )	-0.012** [-2.11]	-0.009* [-1.73]	-0.010* [-1.77]

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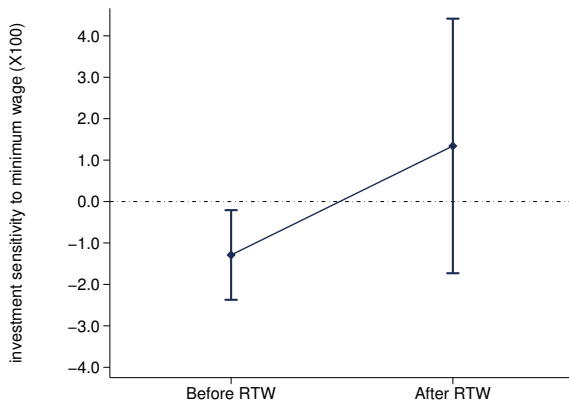
## ● Technological Change and Automation



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# Declining Worker Power and Changes in Investment Sensitivity to MW

- **Declining Union Power: Right-to-Work (RTW) Laws**



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- Large Decline in Union Coverage

Dependent Variable →	<i>Investment<sub>i,s,t</sub></i>	
	State-level Union Coverage	Industry-level Union Coverage
Union Power is Measured as Change in →	(1)	(2)
$w_{i,s,t-1}$	-0.025** (0.012)	-0.026*** (0.009)
<i>Large Decline</i> × $w_{i,s,t-1}$	0.013** (0.006)	0.015*** (0.004)
<i>Large Decline</i>	(omitted)	(omitted)
Controls / Interaction of Controls	Yes	Yes
Firm and Year FEs	Yes	Yes
# of Firm-Year Obs.	59,096	55,974
Adjusted $R^2$	0.143	0.138

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# Benefit of Minimum Wage Increase to Workforce (Pre- and Post-2000)

Value	Parameter / Calculation	Description
\$0.15	$\Delta w_{min}$	average annual changes in minimum wage rates (full sample)
1,780	$h$	average annual hours actually worked per U.S. worker ( <i>OECD.Stat</i> as of 2017)
18,614	$L$	average number of employees per firm (sample as of 2017)
58.3%	$\rho_{hour}$	percent of hourly-paid workers out of total workers ( <i>Labor Force Statistics from the Current Population Survey</i> as of 2017)
M\$2.90	$\Delta w_{min} \cdot h \cdot L \cdot \rho_{hour}$	additional wages that workforce earns from minimum wage increase

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# Cost (Benefit) of Minimum Wage Increase Due to Investment Cuts (Increases) (Pre- vs. Post-2000)

Value		Parameter / Calculation	Description
[95% Confidence Interval]			
Pre-2000	Post-2000		
-3.83%	0.01%	$\beta_3$	investment-wage sensitivity
[-6.33, -1.32]%	[-0.47, 0.66]%		(columns (2) and (3) of Panel A, Table II)
M\$3,409.21		$K$	average lagged capital stock in million \$
			(sample as of 2017)
30.44		$L/K$	average # of workers per million \$
			capital stock (sample as of 2017)
\$57,715		$w$	average annual income (\$) per
			U.S. worker ( <i>OECD.Stat</i> as of 2017)
M\$-34.41	M\$0.90	$\beta_3 \cdot \Delta w_{min} \cdot K \cdot (L/K) \cdot w$	opportunity cost of job losses
			through investment cuts
M\$[-56.87, -11.86]	M\$[-4.22, 5.93]		(or benefit of potential job openings
			via increased investment)

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