Voice at Work

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Many thanks to our outstanding RA team, Nikhil Basavappa, Raymond Han, Ida Kankaanranta, Nelson Mesker, Shakked Noy, and Dalton Zhang!

Worker Exit vs. Voice

Exit: workers discipline firms through external labor market (quits etc.)

Voice: workers influence firms from within (feedback, information-sharing)

Hypothesis: voice improves job quality and firm performance

- \+ Information exchange, productivity ↑, turnover ↓

  Hirschman 1970, Freeman Medoff 1984

- \+ Ability to enforce implicit contracts through better information

  Malcomson 1983, Freeman Lazear 1995

- $\sim$ If mutually beneficial, why isn't worker voice adopted voluntarily?

  Jensen Meckling 1979

Worker Exit vs. Voice

"Adversarial" industrial relations systems

Ex.: United States, United Kingdom, Australia,...

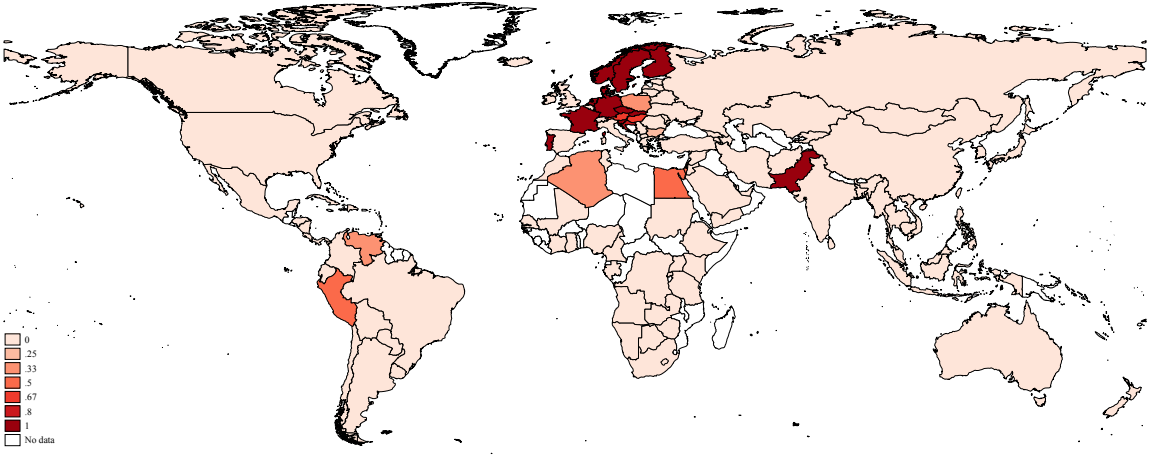
- Few formal voice channels
- Unions provide *some* voice but mainly focus on bargaining
- Workers express demand for more voice Bryson Freeman 2013; Kochan Yang Kimball Kelly 2019

"Cooperative" industrial relations systems

Ex.: Many European countries, e.g. Germany, Sweden, Finland

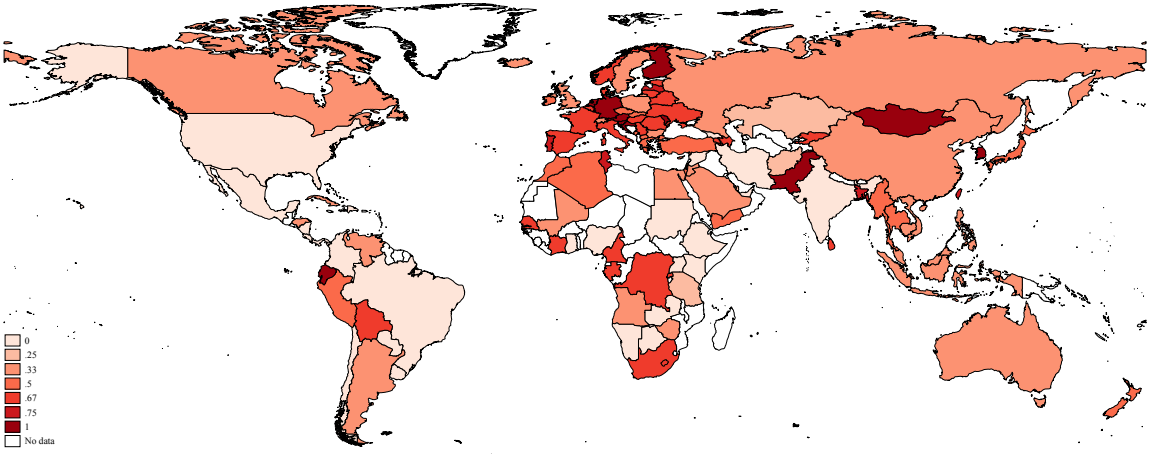
- Law mandates worker voice institutions: board-level representation, works councils
- Rights to information/consultation ("voice") usually bundled with rights to co-decisionmaking/codetermination ("power")

Board-Level Representation



Source: survey article (Jäger, Noy and Schoefer 2021); own visualizations based on CBR Labor Regulation Index (2016).

Shop-Floor Representation



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Worker Exit vs. Voice

Key question: what are the effects of expanding voice? On...

- Job quality (from workers' perspectives)
- Firm performance

Identification challenge:

- **Voice** (information/consultation) often bundled with **power** (codetermination)
- How to disentangle the effects of voice?

Ideal experiment: randomly assign firms (countries?) to expanded worker voice (without shifting power)

This Paper: Effects of Worker Voice on Job Quality & Firm Performance

Context: Finland & 1991 introduction of worker voice mandate, following size cutoff:

Cutoffs:

≥ 150: Statutory right for workers to elect board representatives (20% of seats) to participate in corporate decisions
Alternative forms of worker representation can be negotiated if workers & employer agree
De facto, mostly implemented as a pure voice institution

< 150: No such right

Research design: DiD (pre/post reform, $\lessgtr 150$)

- Secondary design: 2008 reform of shop-floor representation

Key outcomes: separations (voluntary and involuntary), job quality, wages and wage distribution, rent sharing, survival, productivity, capital intensity, investment, profits

Data: universe of firms and workers, admin/tax/survey

Context: Research Agenda on Codetermination/Shared Governance

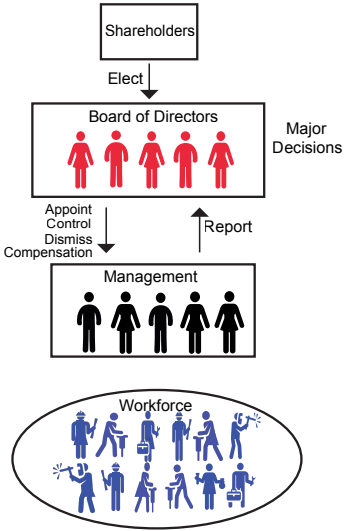
- Voice at Work (WP 2021, Harju Jäger Schoefer)
- Labor in the Boardroom (QJE 2021, Jäger Schoefer Heining)
- What Does Codetermination Do? (ILR Review forthcoming, (Jäger Noy Schoefer)
- Codetermination and Power in the Workplace (invited: EPI “Unequal Power Project” 2021, Jäger Noy Schoefer)

Outline

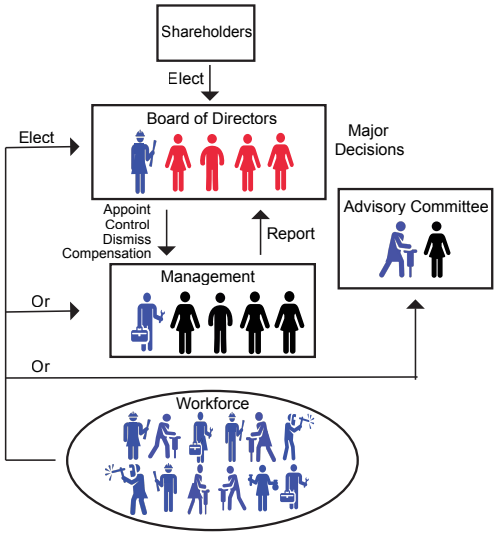
1. Institutions and Reform
2. Separations and Job Quality
3. Wages, the Wage Structure, and the Labor Share
4. Firm Performance
5. Additional Analysis: 2008 Expansion of Shop-Floor Representation
6. Discussion, Interpretation, Interview Evidence

Outline

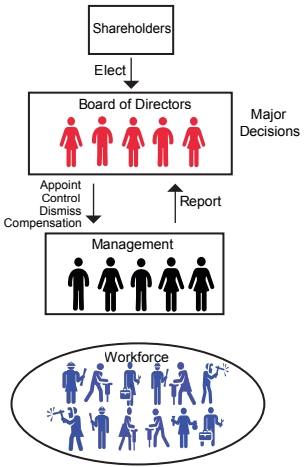
Corporate Governance in Finland w/o Worker Representation

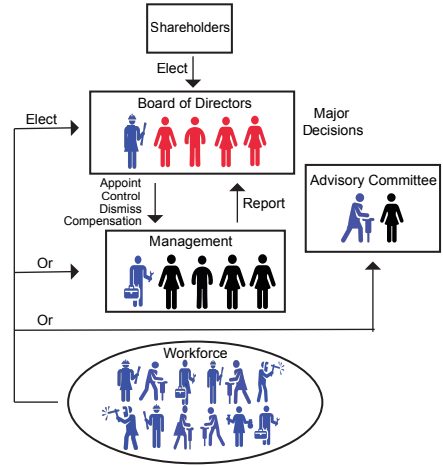


Corporate Governance in Finland w/ Worker Representation



Corporate Governance in Finland w/o & w/ Worker Representation



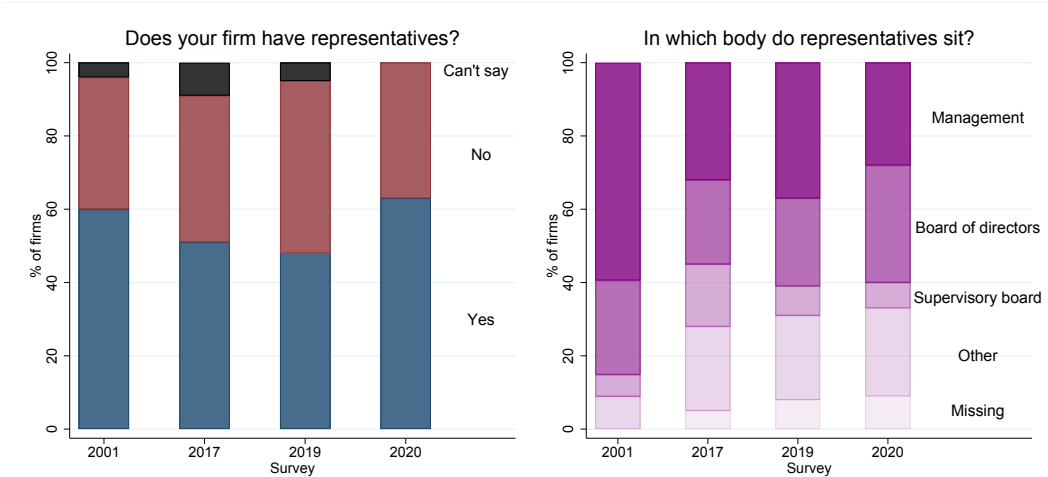


Worker Voice in Firm Governance

- Employees have right for representation in firms with $\geq$**150 employees**
  - Introduced by 1991 reform
- Typically through cooperation agreement between workers and firms
- Statutory provision in case of disagreement: 20% worker representation
  - Board of directors, or
  - Division-level management, or
  - Board of supervisors (uncommon)
- Typical *de facto* implementation: advisory councils, board membership without voting rights, regular consultation meetings

Details | Survey Evidence | Wage Setting in Finland

Worker Representation in Firms $\geq$ 150 Employees: Survey Evidence

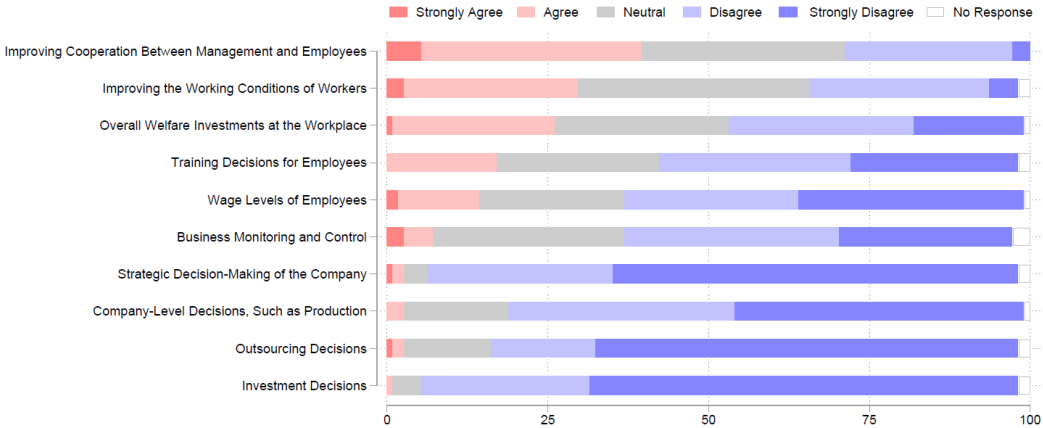


Sources: Sairo (2001), Teollisuuden palkansaajat (*Trade Union Federation*) (2017, 2019), own survey (2020), our visualization

Why did covered firms not adopt?

Reform Did Not Boost Worker Power

Worker Representatives' Self-Assessed Influence



Reform Boosted Information Sharing

Anecdotally:

The body where I work is [...] really a way for the company to share information. [...] Providing information is our main task, and we can't make any decisions, everything comes already decided.

I personally think that the role of an administrative representative is to convey information [...]

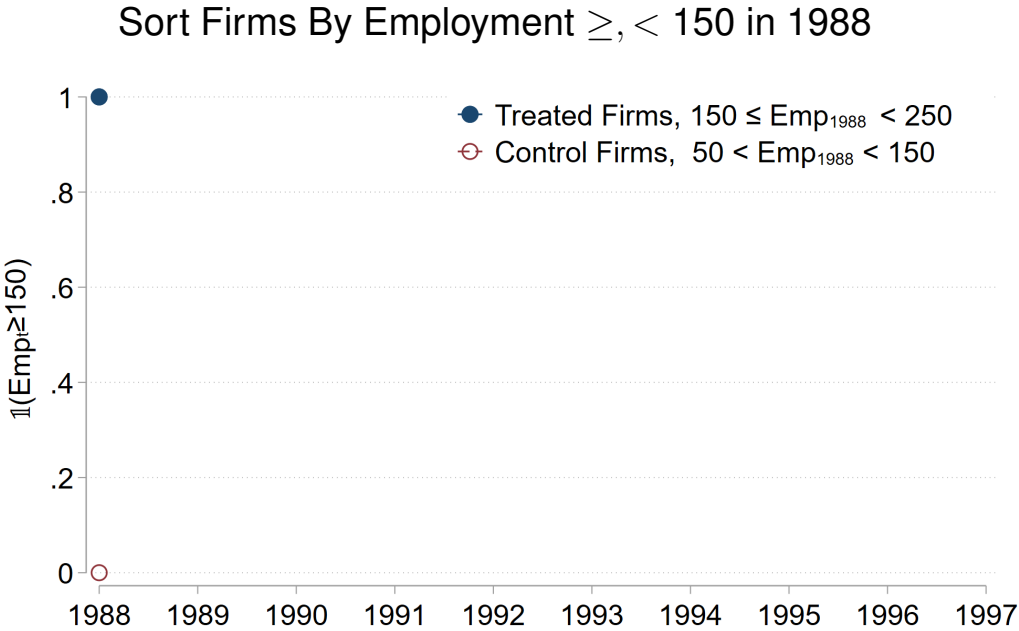
Often implemented as an advisory council/nonvoting board membership

Administrative Data on Universe of Firms & Workers

- Firm-level data from 1988–2016.
  - Variables: assets, value added, labor costs
  - Additional variables 1994–2016: investment, dividends
  - Pre-1994 sampling: firms with $\geq$ 100 employees in manufacturing and trade; $\geq$ 50 employees in construction and road transport
- Matched employer-employee data from 1988–2016: employment, wages (uncensored), executive compensation, etc.
  - Assignment variable: number of employees at the firm level
    - To mirror policy rule/practice: end-of-year count
- No sampling restrictions (except firm size)

Sort Firms By Employment $\geq, <$ 150 in 1988

DiD Design


Sort Firms By Employment ≥, < 150 in 1988
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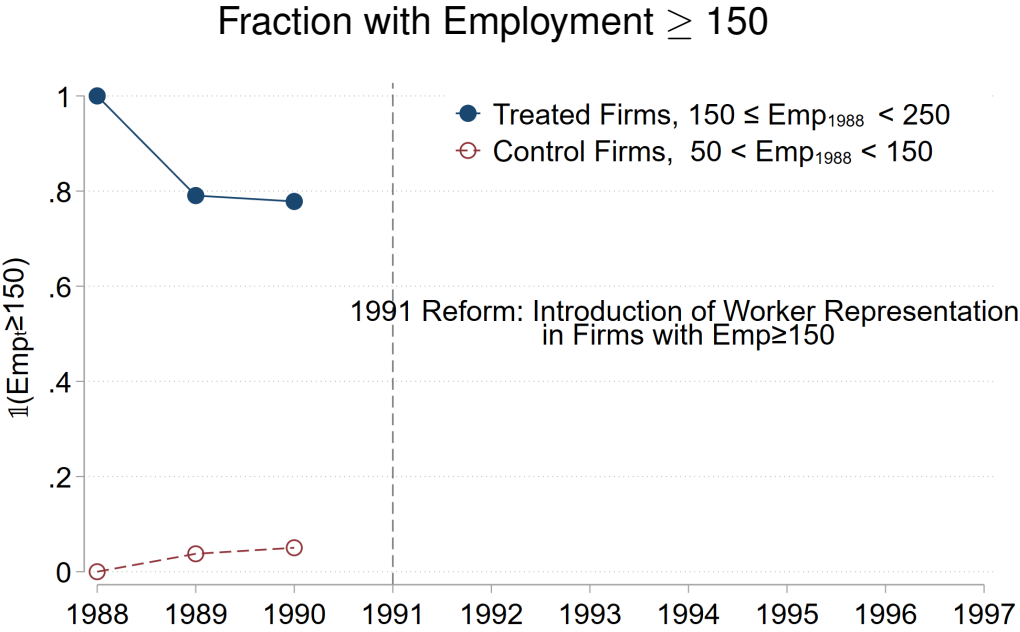
Fraction with Employment ≥ 150
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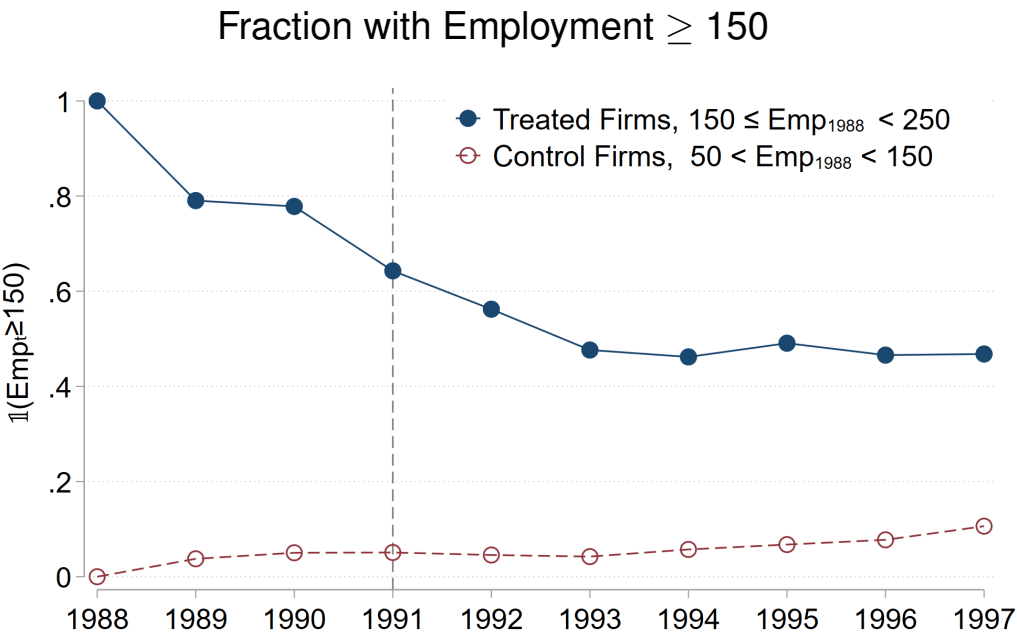
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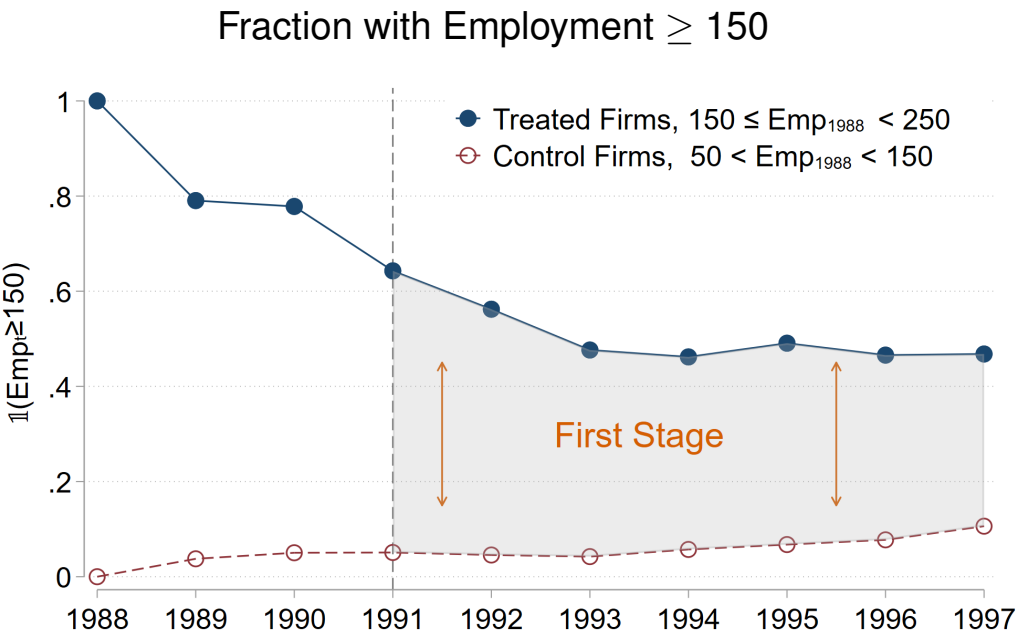
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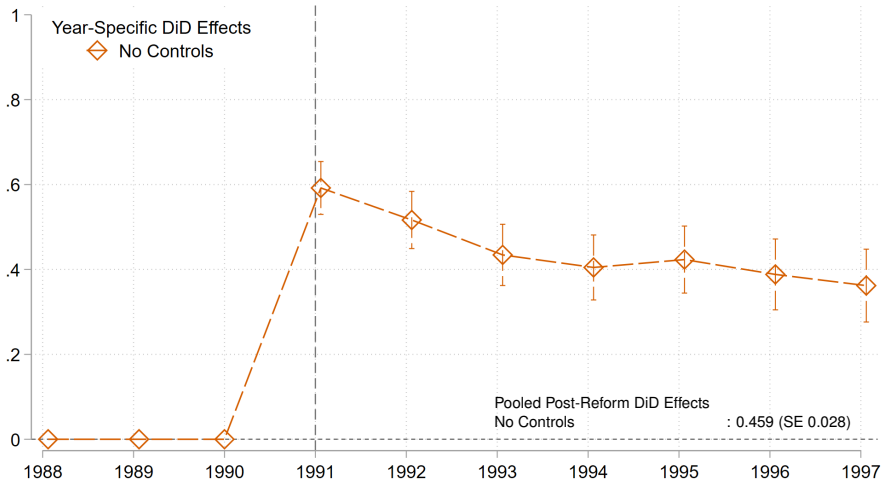
DiD: Fraction with Worker Representation



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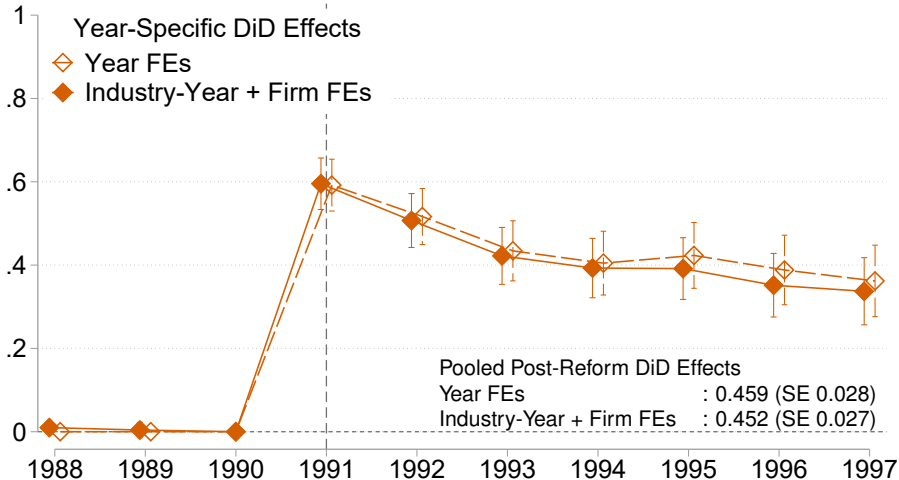


Robustness

Outline

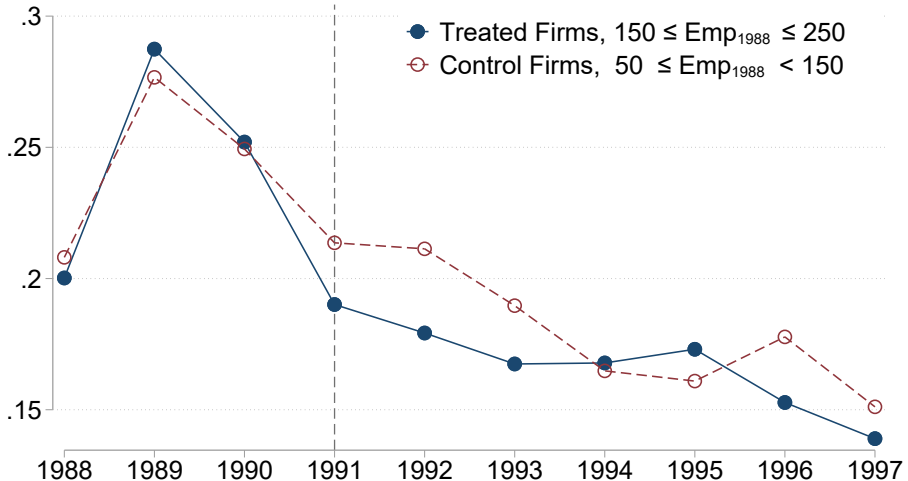
Separations: Motivation

Exit-voice hypothesis: worker voice $\uparrow \Rightarrow$ turnover $\downarrow$

Job-to-job transitions as a revealed-preference measure of job quality

Separations to nonemployment as a measure of employment security/job stability

All Separations (Levels)



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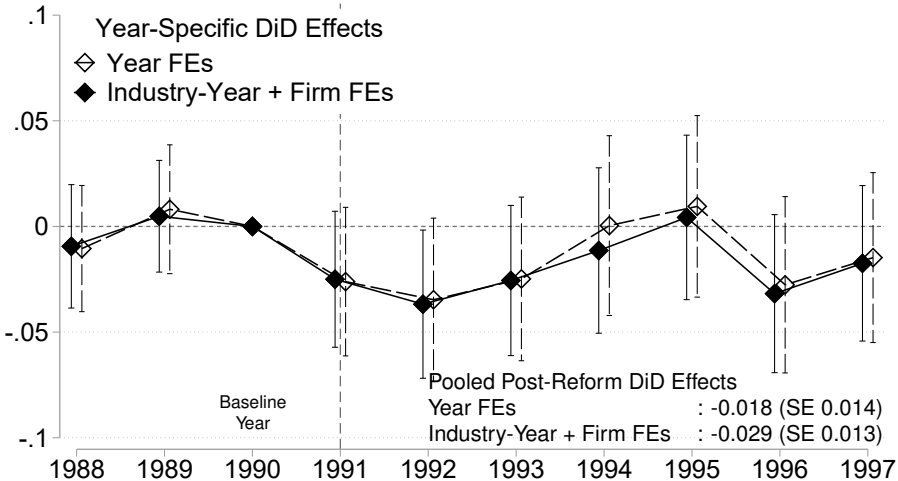
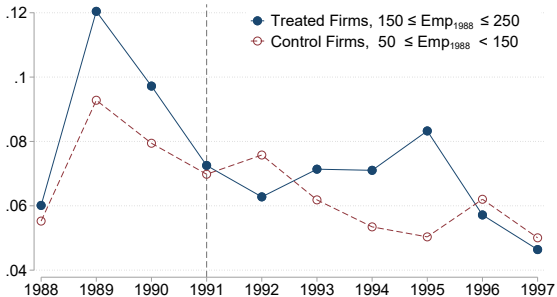
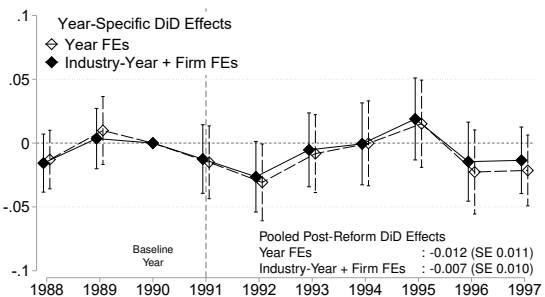


Robustness

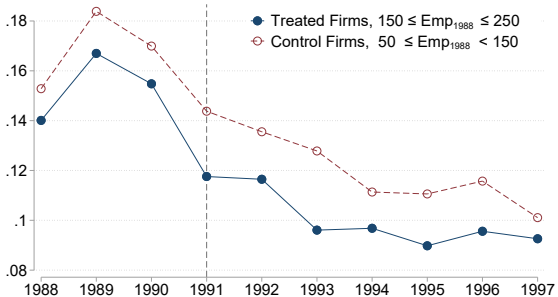
Job-to-Job Transitions (Levels and DiD)

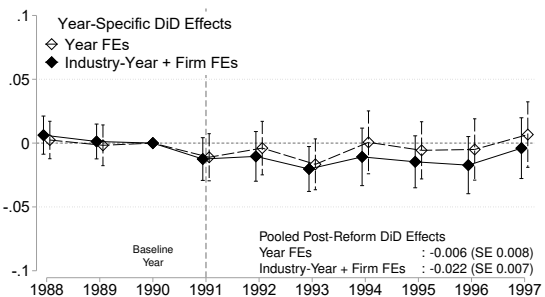




Robustness

Separations into Nonemployment (Levels and DiD)





Robustness

Revealed-Preference Job Quality from Worker Flows

Idea: use worker flows to calculate a revealed-preference ranking of firm quality

Sorkin (2018) extends Google's PageRank algorithm to labor markets

"Good firms hire from other good firms and have few workers leave."

We check whether treated firms increase their relative rank because of the reform

Job Quality Measure: Revealed-Preference Index

	Firm Value Log Index (z-score) (1)	Sickness Spell (Older than 40) (2)	Sickness Spell (Male) (3)	Job Quality (z-score) (4)	Labor Relations Quality (z-score) (5)
DiD: Baseline					
Treatment	-0.043	-0.002	-0.001	0.182**	0.063
(1991-1997)	(0.105)	(0.003)	(0.003)	(0.084)	(0.083)
DiD: With Industry-Year FEs					
Treatment	-0.049	-0.002	-0.002	0.146*	0.063
(1991-1997)	(0.104)	(0.003)	(0.003)	(0.088)	(0.089)
DiD: With Firm FEs					
Treatment	-0.053	-0.002	-0.002		
(1991-1997)	(0.107)	(0.003)	(0.003)		
DiD: With Industry-Year and Firm FEs					
Treatment	-0.065	-0.002	-0.001		
(1991-1997)	(0.104)	(0.003)	(0.003)		
1990 Average (Control):	-0.008	0.070	0.070	0.057	0.041
1990 Average (Treated):	0.045	0.075	0.075	-0.045	-0.244
N, Firm-Years (Control):	4,402	8,577	8,545	1,394	1,399
N, Firm-Years (Treated):	1,409	1,827	1,829	701	703

Other Job Quality Measures: Worker Health

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Subjective Job Quality

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Subjective Labor Relations Quality

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Taking Stock: Job Quality

No effects on:

- job-to-job transitions
- worker health
- revealed-preference measure of firm quality
- labor relations

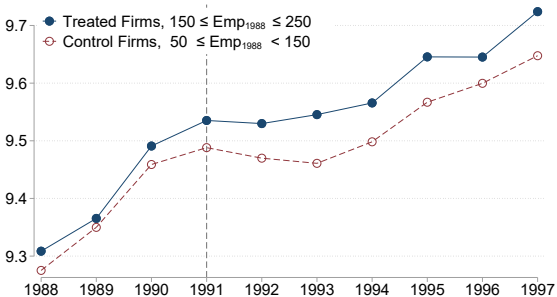
Small reduction in separations to nonemployment (increased job security?)

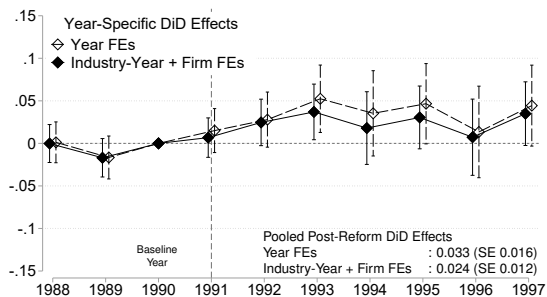
Small increase in subjective job quality

Crucial aspect of job quality: wages

Outline

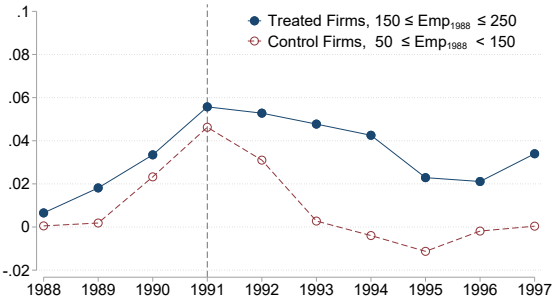
Mean Log Wages (Levels and DiD)

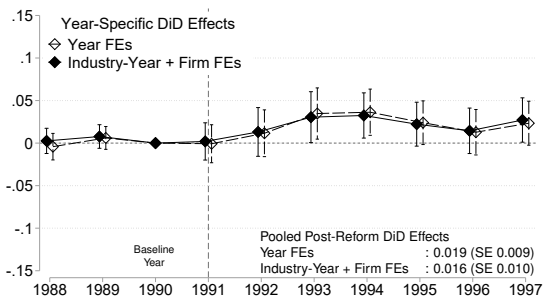




Robustness

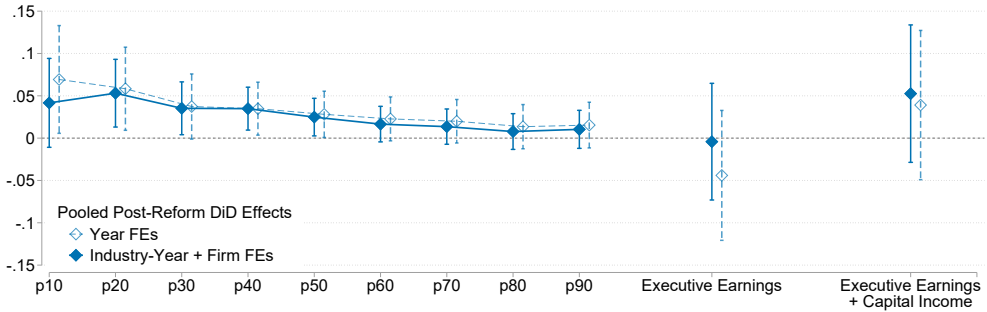
AKM Pay Premia (Levels and DiD)



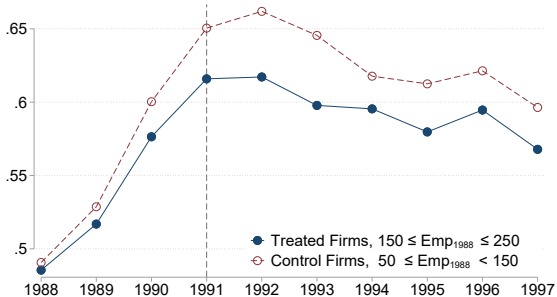


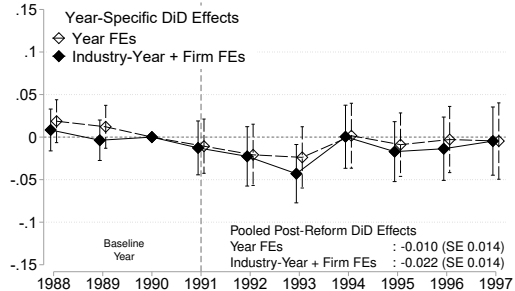
Robustness

Within-Firm Wage Percentiles and Executive Compensation



Labor Share (Levels and DiD)





Robustness

Rent Sharing

Taking Stock: Wages and Rent Sharing

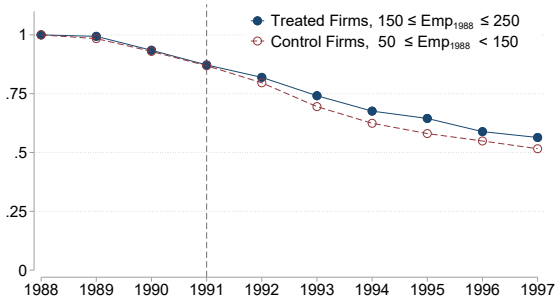
Slight positive effects on composition-adjusted pay premia

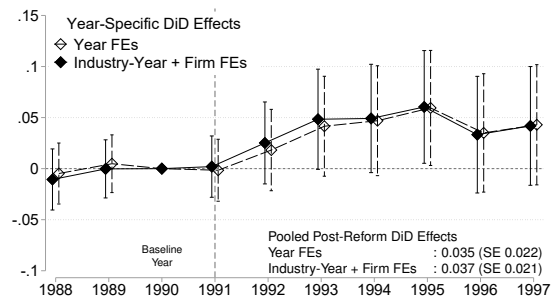
Slight wage compression effects

Consistent with *small* increases in worker bargaining power

Outline

Firm Survival (Levels and DiD)

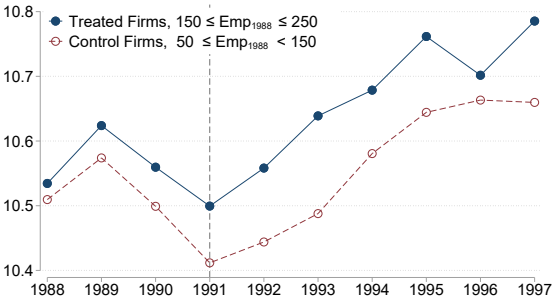


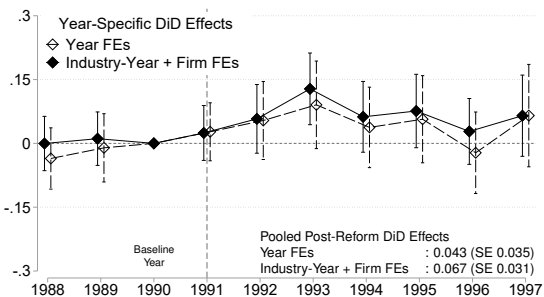


Robustness

Robustness

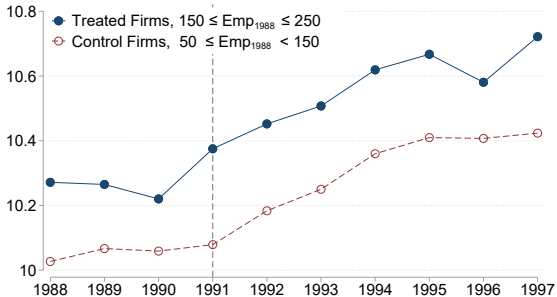
Log Value Added per Worker (Levels and DiD)

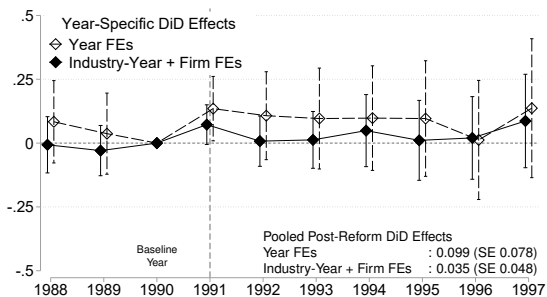




Robustness

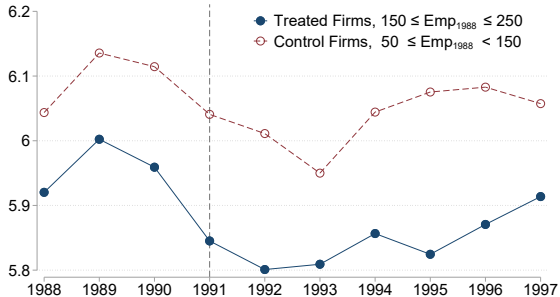
Capital Intensity (Levels and DiD)

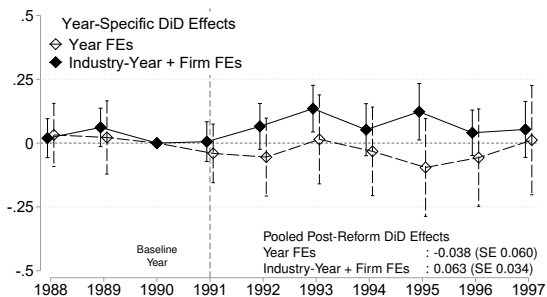




Robustness

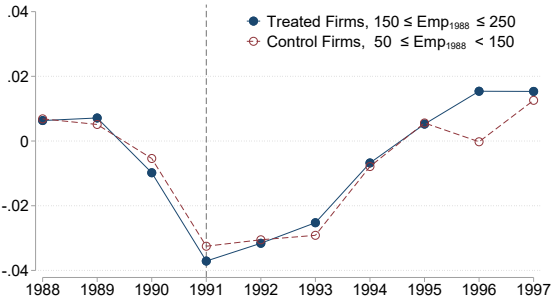
Total Factor Productivity (Levels and DiD)

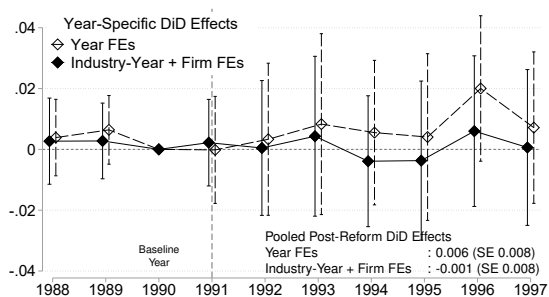




Robustness

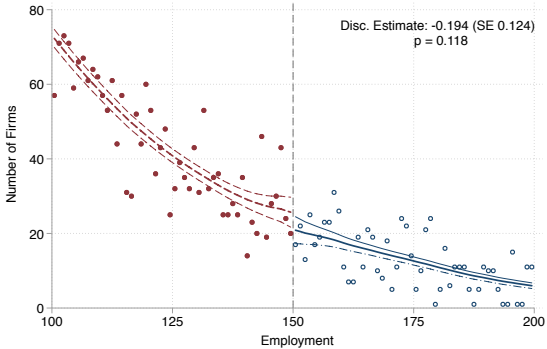
Profit Margin (Levels and DiD)

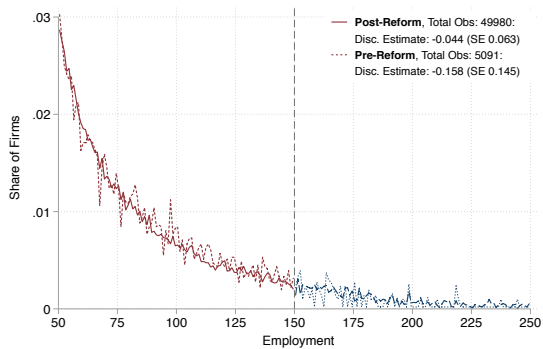




Robustness

Revealed Preference Evidence: Bunching at Size Threshold





Taking Stock: Firm Performance

Null or slightly positive effects on measures of firm performance

No evidence of attempted avoidance

Outline

Additional Analysis: Motivation

We estimate limited effects of the board-level representation mandate

Perhaps board-level representation duplicates existing worker voice institutions?

Shop-floor representation is widespread in Finland

- Information rights: financials, wages, use of temporary workers
- Consultation rights ($\Rightarrow$ delay, no veto): reorganization of tasks, staffing, training

Idea: separately estimate the effects of shop-floor representation in firms uncovered by board-level representation

Strategy: identical DiD strategy, but exploiting 2008 reform

2008 Introduction of Shop-Floor Representation in Firms Sized 20-29

Act on Co-Operation Within Undertakings

- Mandates the election of a shop-floor “cooperation representative" in cases where no collective bargaining agreement stipulates shop-floor representation

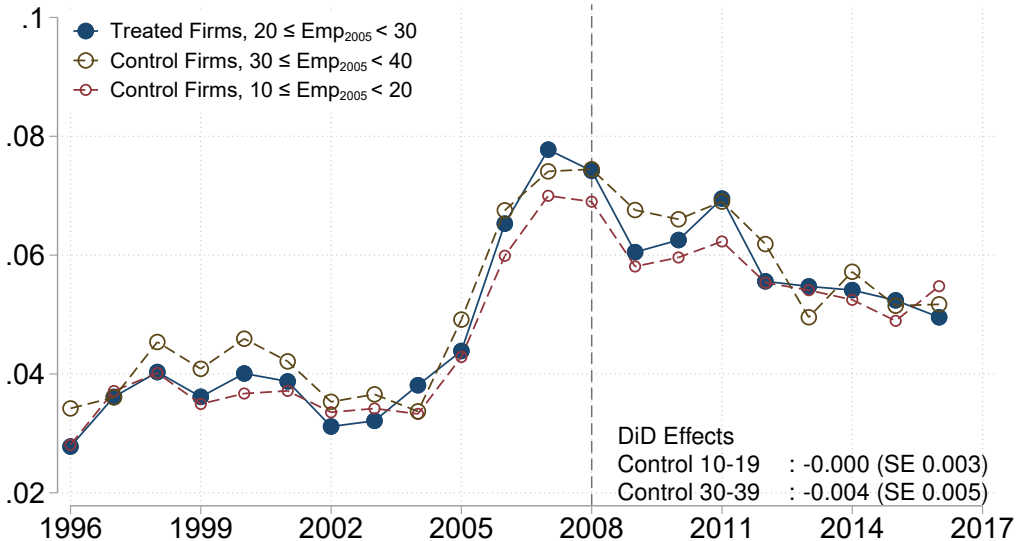
Pre-2008: mandate for firms with $30+$ employees

2008 reform: introduction in firms with 20 to 29 employees

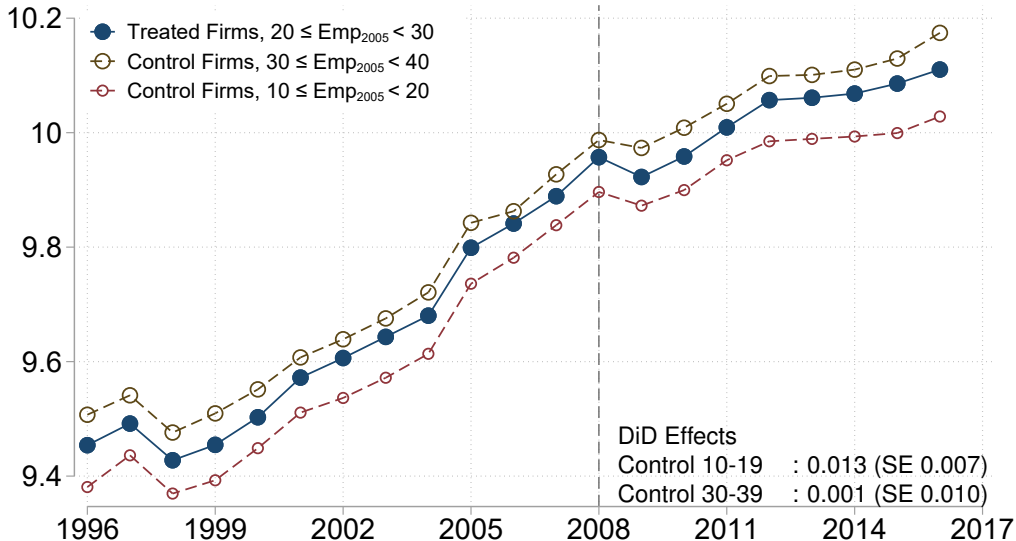
Substantial bite: $\approx$ 50% of 20-29 employee firms had no shop-floor representation pre-reform

First Stage

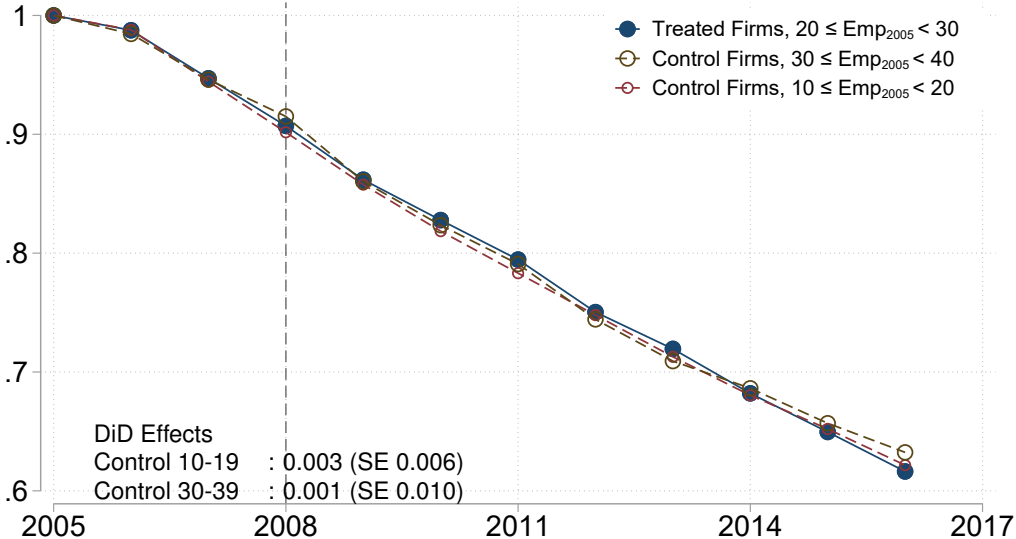
Job-to-Job Transitions



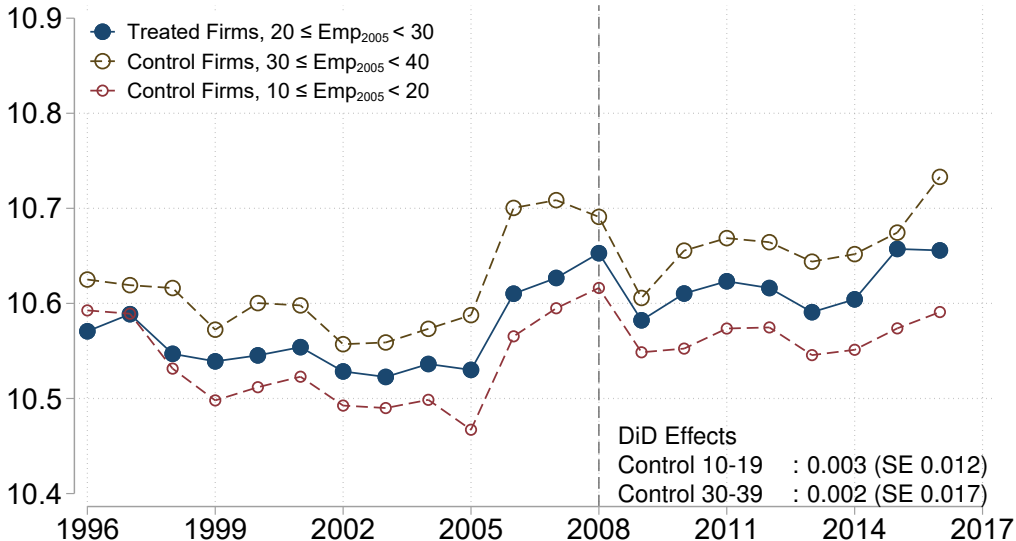
Mean Log Wages



Firm Survival



Log Value Added per Worker



Taking Stock: Shop-Floor Representation

Effects of shop-floor representation are similarly limited

$\Rightarrow$ Presence of shop-floor representatives unlikely to explain our main results

So what does explain the limited effects of board-level worker voice?

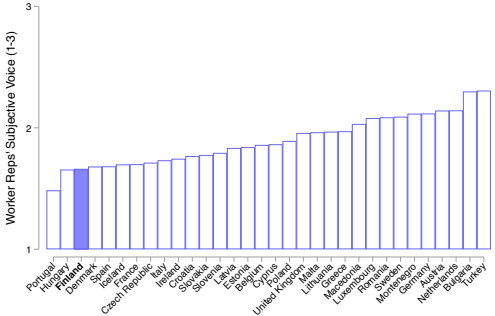
Outline

Two Interpretations

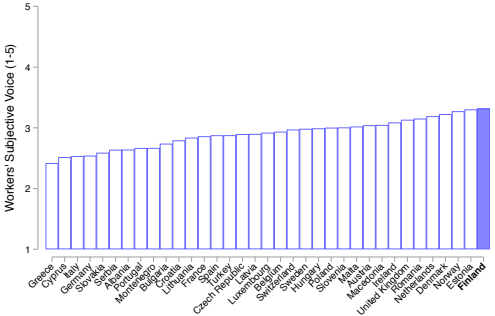
1. Worker voice $\Rightarrow$ information sharing $\uparrow$ $\not\Rightarrow$ firm performance $\uparrow$
2. Worker voice $\not\Rightarrow$ information sharing $\uparrow$
    - Information sharing widespread independently of formal worker voice?

Formal vs Informal Voice in Finland

(a) Worker Representatives' Self-Assessed Voice

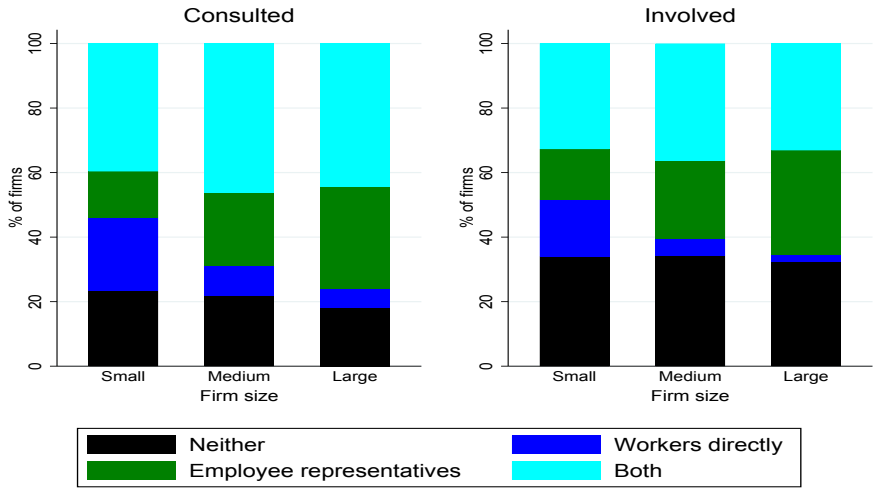


(b) Workers' Self-Assessed Voice



Sources: 2013 European Company Survey and 2015 European Working Conditions Survey (own calculations)

Consultation/Involvement of Workers by Firm Size



Source: 2013 European Company Survey (own calculations)

Conclusion

1991 expansion of worker voice in Finland $\Rightarrow$ limited effects

Slight increase in job quality, reduction in separations to nonemployment, increases in survival and productivity

Explanations: pre-existing cultures of informal worker involvement?

APPENDIX

If you meet the threshold, why is there no worker representation?

	2001*	2017	2019	2020
The employer did not want it	34%	40%	45%	49%
The employees did not want it	-	1%	5%	3%
Not aware of the right	14%	6%	8%	11%
Can't say	27%	19%	22%	-
Other reason	25%	33%	22%	38%
N	203	288	164	111
Restricted to $\geq$ 150 employees	No	Yes	Yes	Yes

Sources: Sairo (2001), Teollisuuden palkansaajat (*Trade Union Federation*) (2017, 2019), own survey (2020), our visualization

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Main Research Design: DiD Around 1991 Introduction

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- Sort firms into two categories based on **pre-reform employment in 1988**
  - **Treatment group**: 150 to 250 employees in 1988
  - **Control group**: 50 to 100 employees in 1988
  - Assess persistence of categorization (first stage)
  - Probe robustness to bandwidth choice, donut hole

- Difference-in-differences specification for outcome y of firm i in year t:

$$y_{it} = \alpha + \sum_{k=1988}^{1998} \psi_k^{\text{Treated}} \cdot \mathbb{1}[N_{1988} \geq 150] \times \mathbb{1}_{t=k} + \sum_{k=1988}^{1998} \psi_k \cdot \mathbb{1}_{t=k} + X_{it}\beta + \epsilon_{it}$$

  - Coefficients of interest: ψ_k^{Treated}
  - Normalize $\psi_{1990}^{\text{Treated}} = 0$
  - Baseline time period effects ψ_k
  - Control variables X_{it}: year, industry, industry-year effects
  - Winsorize outcomes at 1% level (robustness 0%, 5%)
  - Cluster standard errors at firm level

Additional Research Design: RD in Post-1991 Period

Back

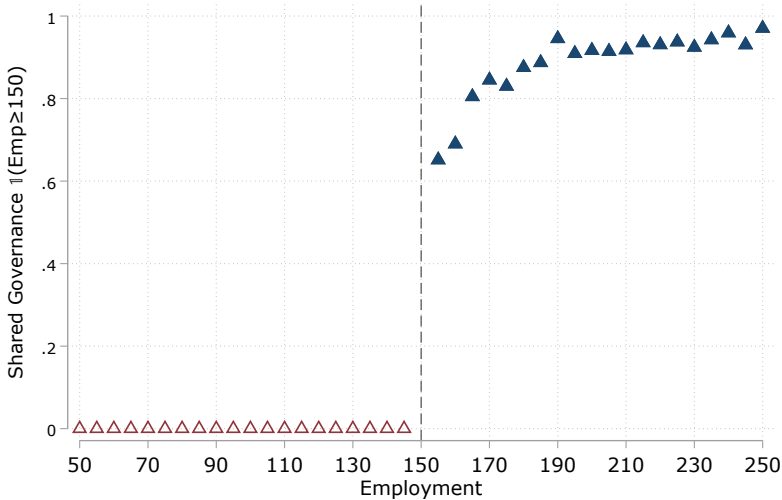
- RD estimating equation:

$$y_{it+1} = \alpha + \beta_1 \underbrace{\mathbb{1}[N_{it} \geq 150]}_{\text{Worker Rep.}} + \beta_2 \cdot (N_{it} - 150) + \beta_3 \mathbb{1}[N_{it} \geq 150](N_{it} - 150) + X_{it}\beta_4 + \epsilon_{it}$$

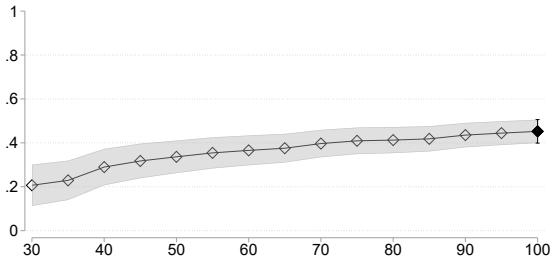
y_{it} is the outcome of interest for firm i in year $t+1$
N_{it} is the number of employees
β_1 is coefficient of interest, capturing effect of worker representation

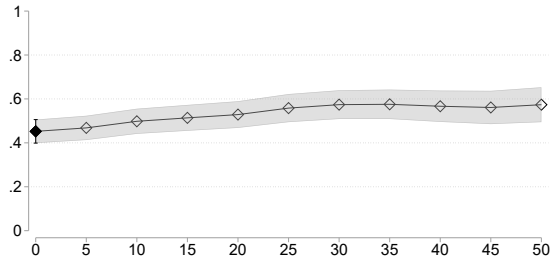
- Linear and quadratic specifications, bandwidth choice following Calonico et al. (2014)
- Control variables X_{it}: year, industry, industry-year effects
- Additional specifications:
  - Vary bandwidth and donut hole of observations around 150 employees
  - Placebo specifications in pre-reform period and at other cutoffs

RD Design: Persistence (This and Next Year Above Cutoff)



Fraction of Firms with Worker Right to Shared Governance (Robustness Checks): Robustness





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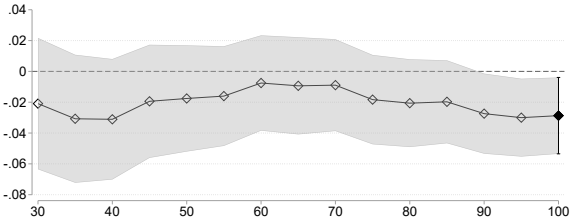
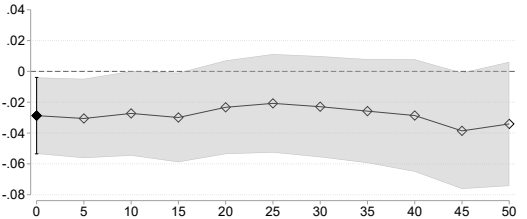
All Separations: Robustness





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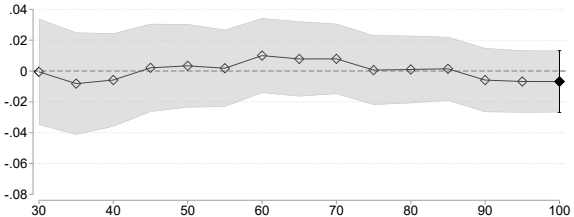
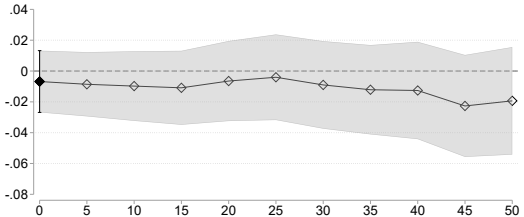
Job-to-Job Transitions: Robustness





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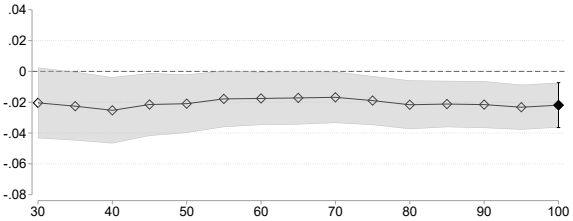
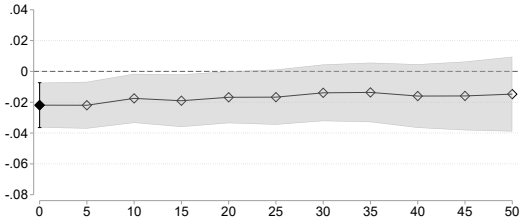
Separations into Nonemployment: Robustness





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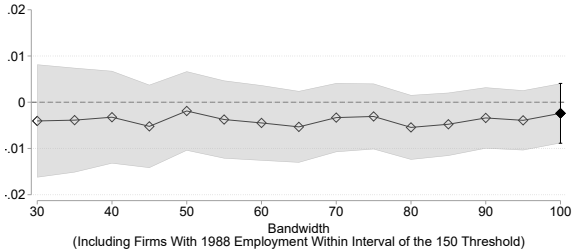
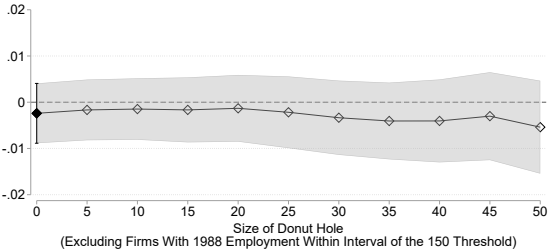
Sickness Spell (Older than 40): Robustness





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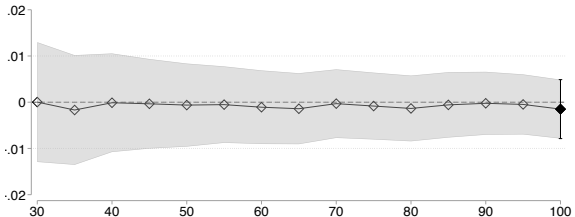
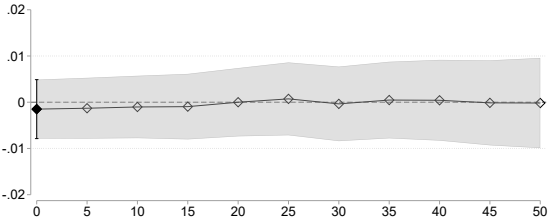
Sickness Spell (Male): Robustness





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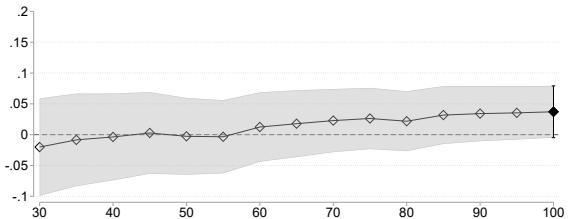
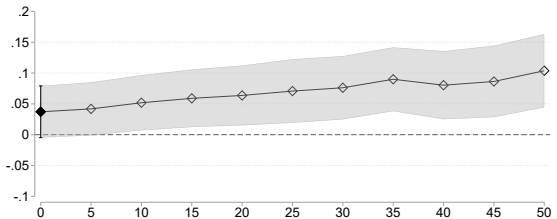
Survival: Robustness





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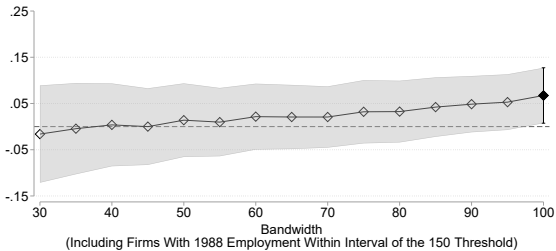
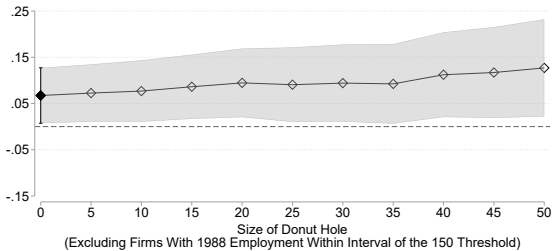
Log Value Added Per Worker: Robustness





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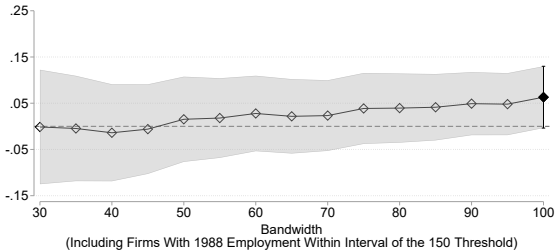
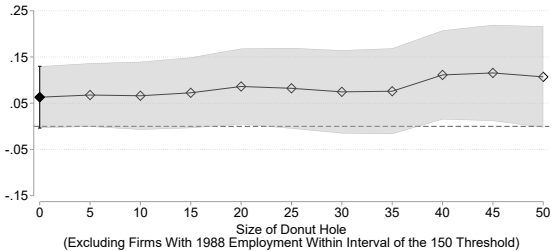
Total Factor Productivity: Robustness





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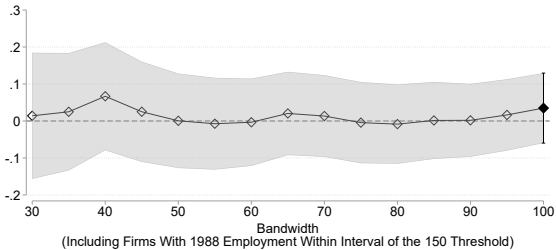
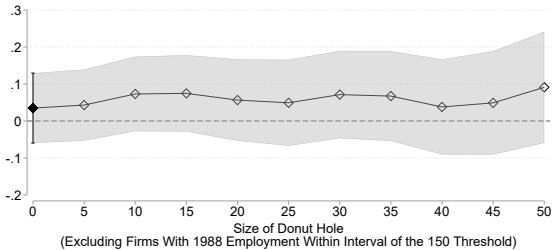
Log Capital Intensity: Robustness





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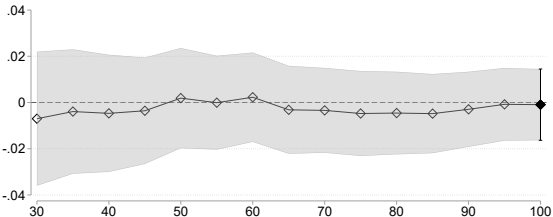
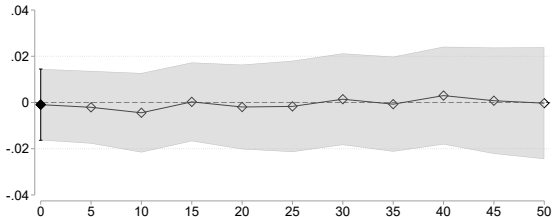
Profit Margin: Robustness





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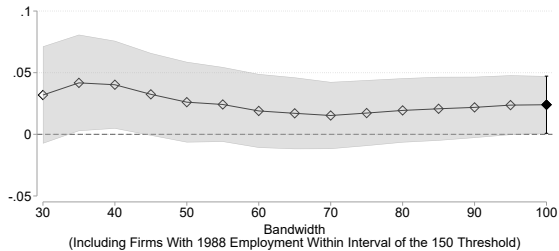
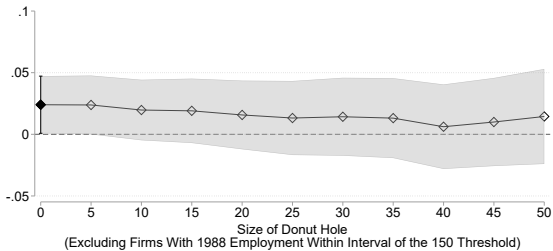
Mean Log Wage: Robustness





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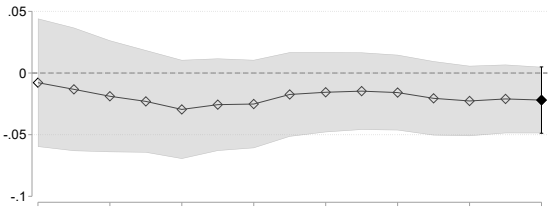
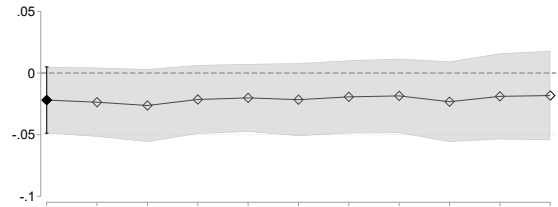
Labor Share: Robustness





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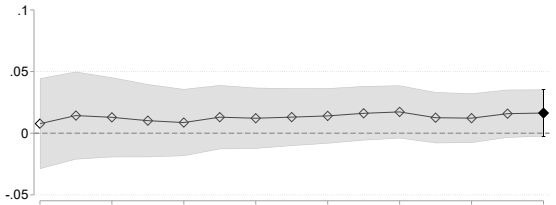
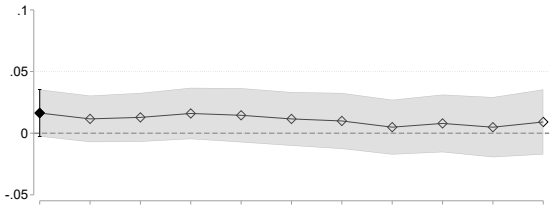
Wage Premium Composition Adjustment: AKM Firm Effect: Robustness





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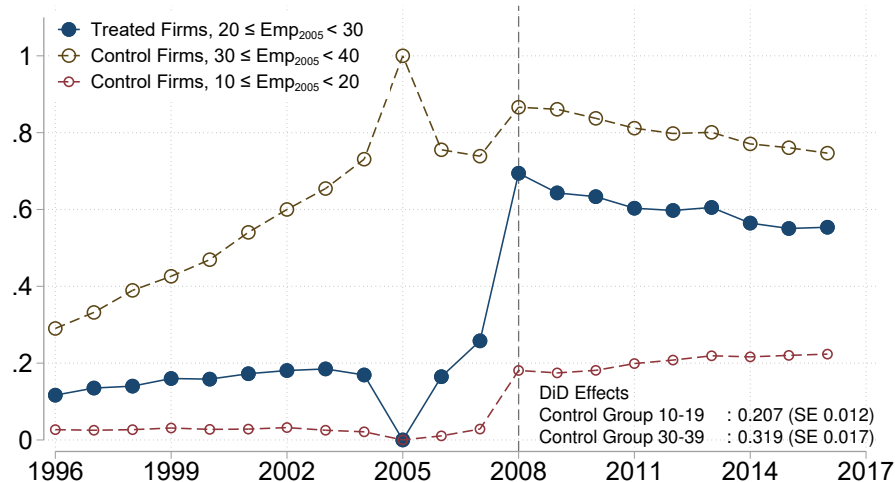
2008 Shop-Floor Representation Reform – First Stage



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Main Research Design: DiD Around 1991 Introduction

- Sort firms into two categories based on **pre-reform employment in 1988**
  - **Treatment group**: 150 to 250 employees in 1988
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  - Assess persistence of categorization (first stage)
  - Probe robustness to bandwidth choice, donut hole

- Difference-in-differences specification for outcome y of firm i in year t:

$$y_{it} = \alpha + \sum_{k=1988}^{1998} \psi_k^{\text{Treated}} \cdot \mathbb{1}[N_{1988} \geq 150] \times \mathbb{1}_{t=k} + \sum_{k=1988}^{1998} \psi_k \cdot \mathbb{1}_{t=k} + X_{it}\beta + \epsilon_{it}$$

  - Coefficients of interest: ψ_k^{Treated}
  - Normalize $\psi_{1990}^{\text{Treated}} = 0$
  - Baseline time period effects ψ_k
  - Control variables X_{it}: year, industry, industry-year effects
  - Winsorize outcomes at 1% level (robustness 0%, 5%)
  - Cluster standard errors at firm level

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Additional Research Design: RD in Post-1991 Period

- RD estimating equation:

$$y_{it} = \alpha + \beta_1 \underbrace{\mathbb{1}[N_{it} \geq 150]}_{\text{Worker Rep.}} + \beta_2 \cdot (N_{it} - 150) + \beta_3 \mathbb{1}[N_{it} \geq 150](N_{it} - 150) + X_{it}\beta_4 + \epsilon_{it}$$

y_{it} is the outcome of interest for firm i in year t
N_{it} is the number of employees
β_1 is coefficient of interest, capturing effect of worker representation

- Linear and quadratic specifications, bandwidth choice following Calonico et al. (2014)
- Control variables X_{it}: year, industry, industry-year effects
- Additional specifications:
  - Vary bandwidth and donut hole of observations around 150 employees
  - Placebo specifications in pre-reform period and at other cutoffs

Hold-Up: Basic Idea

Profits:

$$\pi = \overbrace{F(K, \bar{L})}^{\text{Revenue}} - \overbrace{w\bar{L}}^{\text{Wage Bill}} - \overbrace{cK}^{\text{Capital Expenditure}} \tag{1}$$

Wage-taking firm's capital investment:

$$F_K = c \tag{2}$$

Essence of hold-up is that wage is endogenous to K:

$$F_K = c + \bar{L}\frac{\partial w^*}{\partial K} \tag{3}$$

Underlying story: wage bargaining

- Rent sharing
- Outside option (resale value of K is $c' < c$)

Hold-Up: Wage Bargaining (Grout 1984)

- Time structure:
  1. Capital choice by firm
  2. **Bargaining over wages**

Workers' surplus:

$$S^W(w, \bar{L}, K) = \bar{L}(w - b) \tag{4}$$

Firm surplus:

$$S^F(w, \bar{L}, K) = F(K, \bar{L}) - w\bar{L} - c'K \tag{5}$$

Nash solution for wage bargain:

$$w^*(K, \bar{L}) = b + \phi \frac{1}{\bar{L}} \overbrace{(F(K, \bar{L}) - b\bar{L} - c'K)}^{\text{Total Surplus}} \tag{6}$$

Hold-Up: Worker Bargaining Power Depresses Investment

- First stage: capital choice by firm (incorporating wages set in second stage)

$$F_K(\bar{L}, K^*) = c + \underbrace{(c - c')}_{>0} \underbrace{\left[\frac{\phi}{1-\phi}\right]}_{>0} \tag{7}$$

- Firm selects lower capital stock (and higher marginal product of capital)
- Bargaining power increases lower investment

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Hold-Up: Beyond Wage Bargaining

- Previously: firm sets capital unilaterally in first stage
- Now: firm and workers bargain over capital in first stage (Manning, 1987)
  - Nests previous case (zero worker bargaining power ι over capital)

$$\max_K \{\iota \log S_1^W(w^*, \bar{L}, K^*), K) + (1-\iota) \log S_1^F(w^*, \bar{L}, K)\} \tag{8}$$

- Worker bargaining power *increases* investment
  - No worker control: $\iota = 0 \Rightarrow F_K > c \Rightarrow$ underinvestment
  - Full worker control: $\iota = 1 \Rightarrow F_K = c' < c \Rightarrow$ overinvestment

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1991 Reform: Board Representation $\geq$ 150 Employees

- Pre-1991: no board representation
  - Throughout: shop-floor representation through union representative with information and consultation rights, no active decision rights
- 1990 reform by centrist gov. introduces board representation $\geq$ 150 employees
  - Center-right party's PM Holkeri, Social Democrats, smaller parties
- Timing:
  - Law becomes active 01/01/1991, *permitting* board representation
  - Statutory provision in case of disagreement becomes *binding* 07/01/1992
  - Law still on books today without major changes since 1991

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Wage Setting in Finland

- High coverage of collective bargaining
  - Wage floors rarely binding and most employees receive pay premia above CBA floor (Uusitalo and Vartiainen 2009)
- Performance pay prevalent, e.g., half of white-collar employees (Snellman et al. 2003)
- Idiosyncratic rent-sharing elasticity: 0.051
  Typical range of rent sharing elasticities in meta study: 0.05 to 0.15 (Jäger, Schoefer, Young and Zweimüller, 2020)
- Firms' pay premia have similar dispersion compared to Germany (cf. Card, Heining and Kline 2013)

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Wage Dispersion and Pay Premia in Finland

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