Labor Representation in Governance as an Insurance Mechanism

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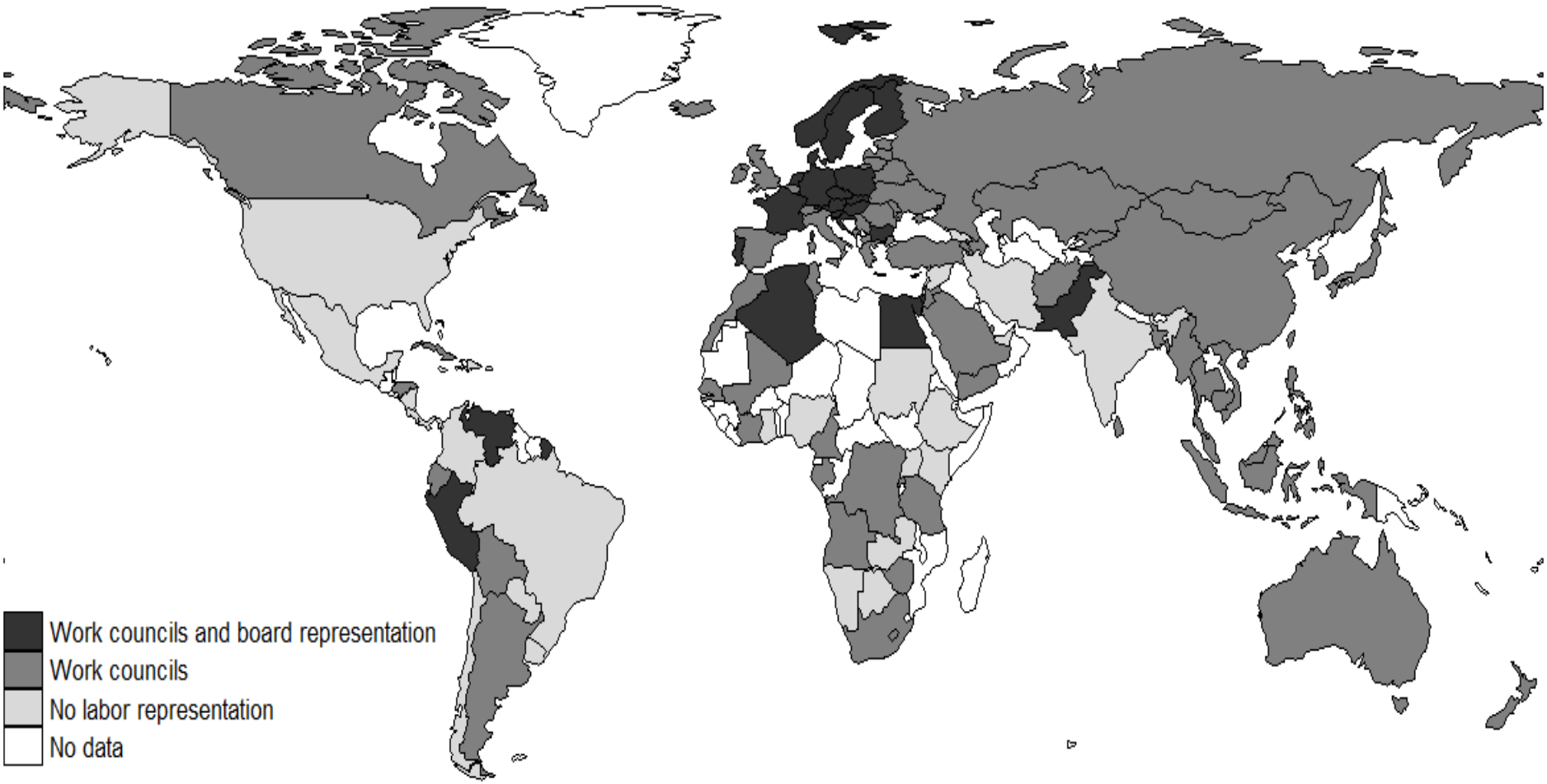
World map of labor representation



Source: CBR-LRI database from the Centre for Business Research at the University of Cambridge (Adams, et al., 2017)

Motivation and question: the insurance hypothesis

- Question: What is the impact of labor representation on boards on risk-sharing between workers and firms?

- Efficient insurance contracts between workers and firms:
  - Workers receive insurance in exchange for lower wages, improves risk-sharing
  - Literature mostly assumes that firms can commit or that contracts are self-enforcing

- Hypothesis: labor representation is a commitment device
  - …prevents ex-post expropriation
  - …is part of an efficient contract

Two different views

- Entrenchment: Labor representation creates and protects rents of workers and managers
  - Jensen & Meckling (1979): if labor representation were efficient, it would not have to be mandatory; it would emerge in a market without government intervention
  - Pagano & Volpin (2005): managers collude with workers to thwart hostile takeovers
  - Atanassov and Kim (2009): underperforming managers may form alliance with workers and take actions harmful to shareholders, such as value destroying asset sales to prevent layoffs and management turnovers.

Alchian (1984) *"The campaigns for 'worker participation' or 'industrial democracy' or codetermination on boards of directors appear to be attempts to control the wealth of stockholders' specialized assets … a wealth confiscation scheme."*

Commitment device for implicit contract

- Implicit insurance contract
  - Risk-neutral principals of the firm provide employment protection to risk-averse workers against adverse shocks
  - In return, workers accept lower wages as an insurance premium
  - Improves risk-sharing (Azariadis,1975; Baily, 1974; Gamber, 1988; Rudanko, 2011; Berk and Walden, 2013)
- The literature does not specify how shareholders can make credible commitments not to lay off workers in the future when it is in their best interest to do.
- Labor representation provides an enforceable commitment device.
  - Explanation does not rely on preferences
  - ≠ family firms literature (Sraer and Thesmar, 2007; Ellul, Pagano, Schivardi 2017)

Predictions on employment and wages

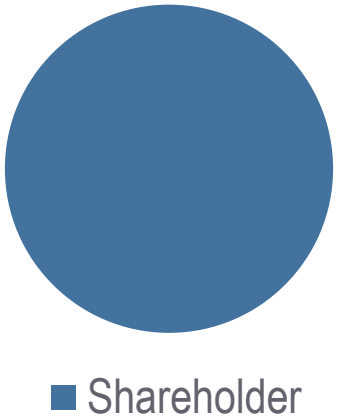
- Same predictions on layoffs
  - Workers with labor representation will be better protected against layoffs during adverse industry shocks.
- Different predictions on wages
  - The insurance view:
    - Workers with labor representation will receive lower wages than those without labor representation.
  - The entrenchment view:
    - Workers with labor representation will receive higher wages than, or at least equal wages to those without labor representation

The German Case

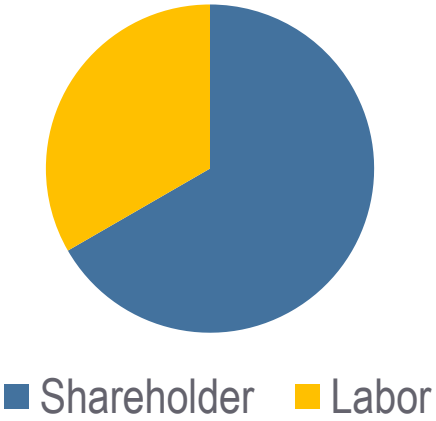
- Otherwise similar companies have different degrees of labor representation.
- The Institute of Employment Research (IAB) provides detailed, high quality panel data on employment and wages for all establishments (e.g., factories, offices) located in Germany over our sample period 1990 to 2008.
- Establishment level data allow cleaner identification devoid of false detection of insurance that can occur with firm level data.
  - If a firm fires workers in a plant and hires the same number of different workers at another plant → aggregate employment at the firm will be unchanged
  - Appears as if the firm provided full employment protection.

Codetermination in Germany

Supervisory Board (≤500 employees)



Supervisory Board (≤2000 employees)



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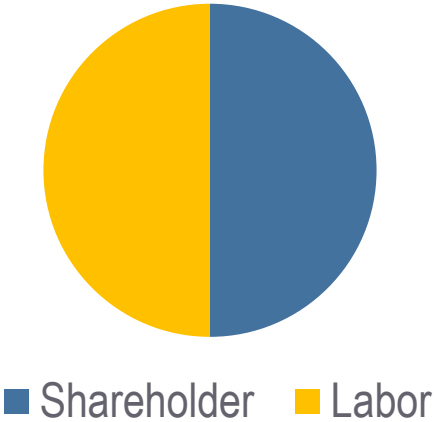


Only employees working in Germany count

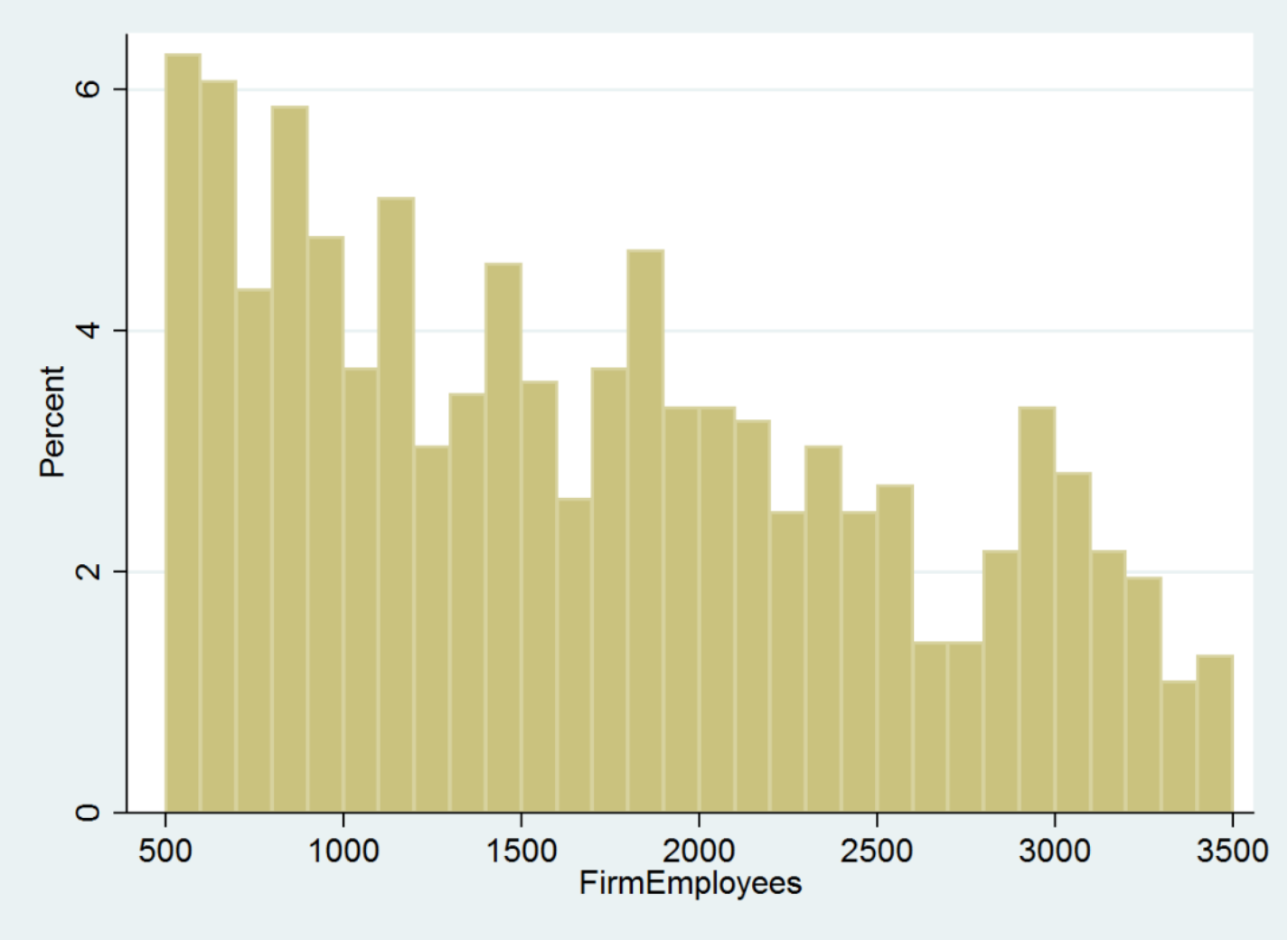
Sample

- 184 large listed German corporations (1990-2009)
  - All DAX and MDAX companies
  - Most publicly available information (governance, stock market, balance sheet, and P&L data)

- IAB sample of all German businesses (1975-2008)
  - Detailed establishment level data on industry, location, employment, wages, education, age, (nationality)
  - In total approx. 33.4 million establishment-year observations for our sample period of1990-2008

- 34,000 establishments matched to 142 of our 184 firms

Number of employees across firm-years



Research design

- Compare how negative exogenous industry shocks to employment affect employees of:
  - firms with parity codetermination vs.
  - firms with fewer or no representation on the board
- Difference-in-difference model:

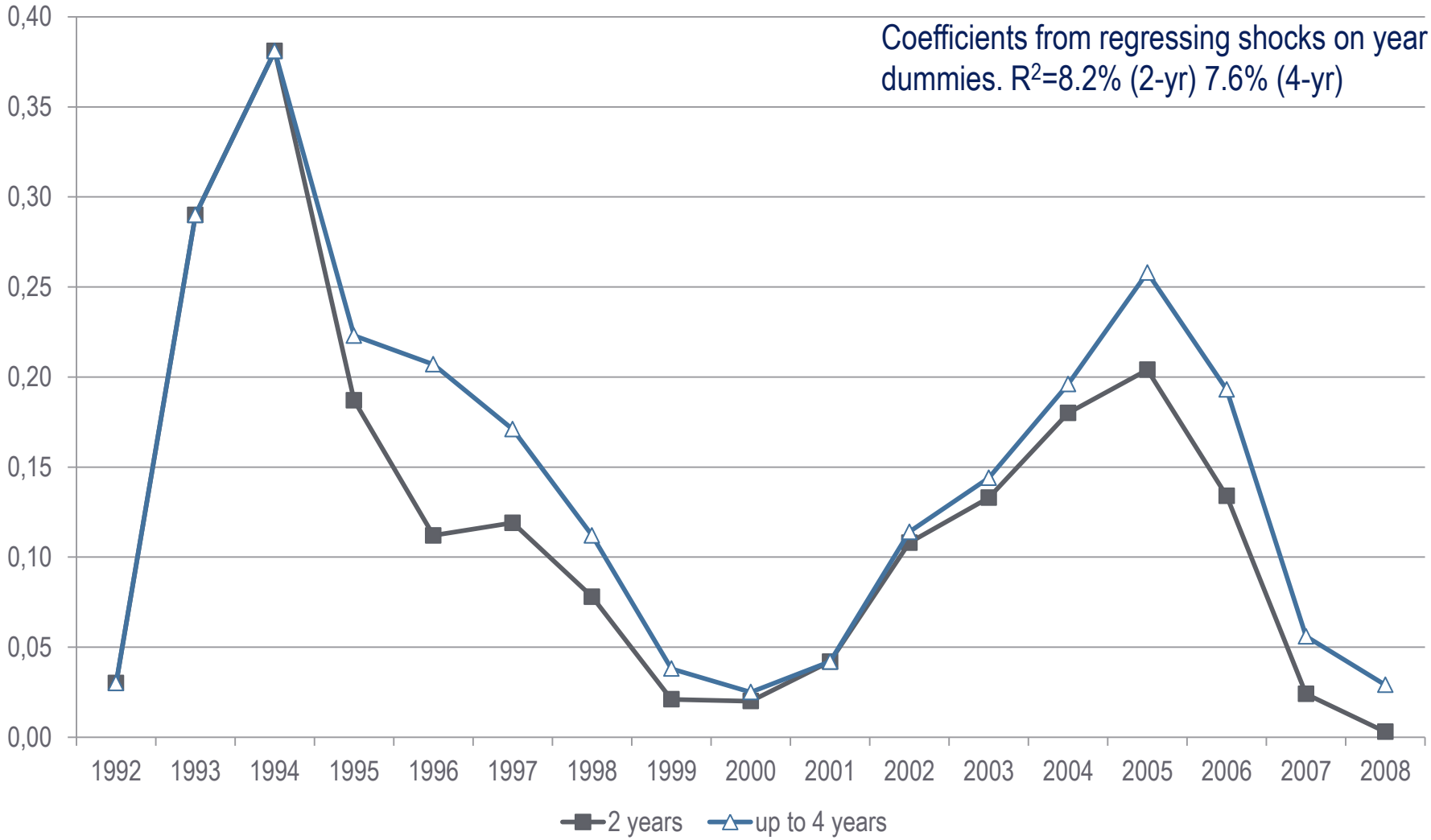
$$y_{ijkt} = \alpha_t + \alpha_i + \gamma X_{ijkt} + \delta Parity_{jt} + \theta Shock_{kt} + \beta Parity_{jt} \times Shock_{kt} + \epsilon_{ijkt}$$

  - *i* indexes establishments
  - *j* indexes firms
  - *k* indexes industry
  - *t* indexes time
  - y_{ijkt} is the log change in employment or log of median daily wage
- Regression discontinuity analysis

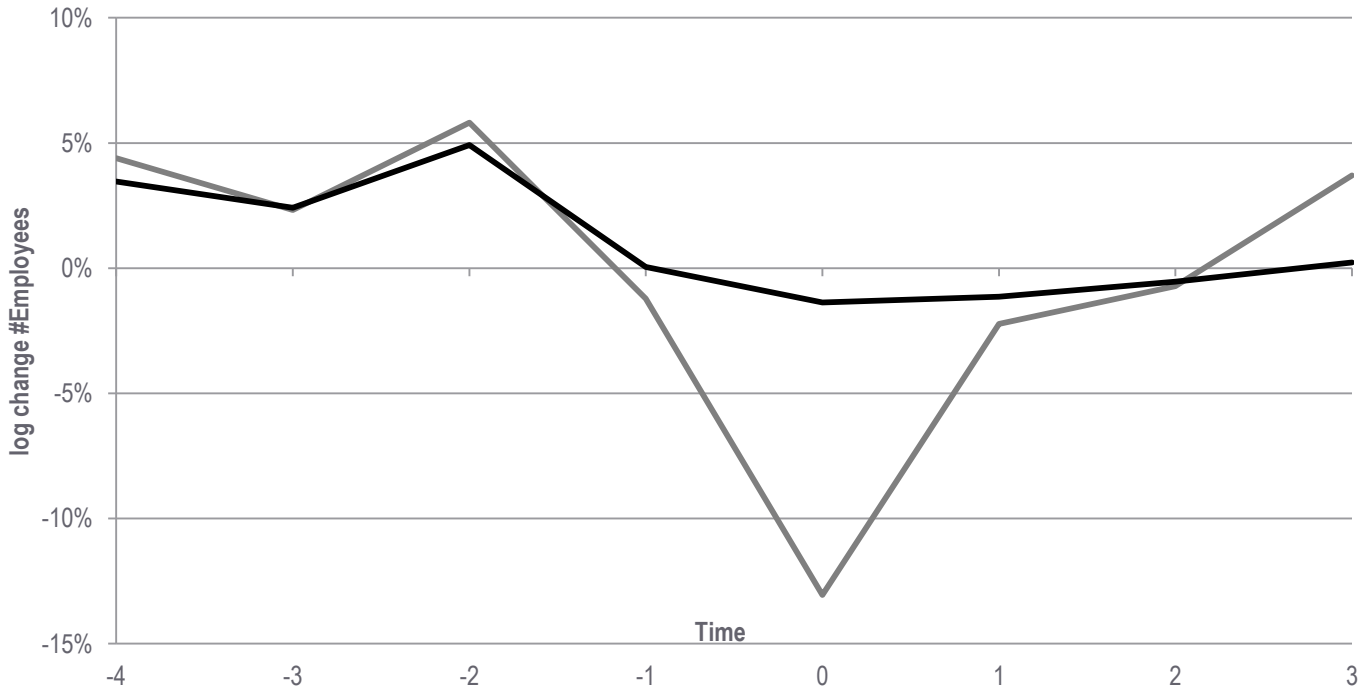
Identification of adverse industry shocks

- Shock needs to be
  - Large enough to have a significant impact
  - Frequent enough to permit identification
  - Exogenous to the firm
- We use non-sample firms with establishments in Germany (IAB employment data)
  - Based on > 30 million establishment-years, including large foreign multi-nationals with establishments in Germany
  - Industry defined as 3-digit NACE (subsector), similar to NAICS
  - $Shock_{kt}$ = 1 in industry k
    - if employment in the industry decreases by at least 5%
    - only if employment growth ≤ 0 in year t+1 (persistence)

Distribution of shocks across time



Parallel trends



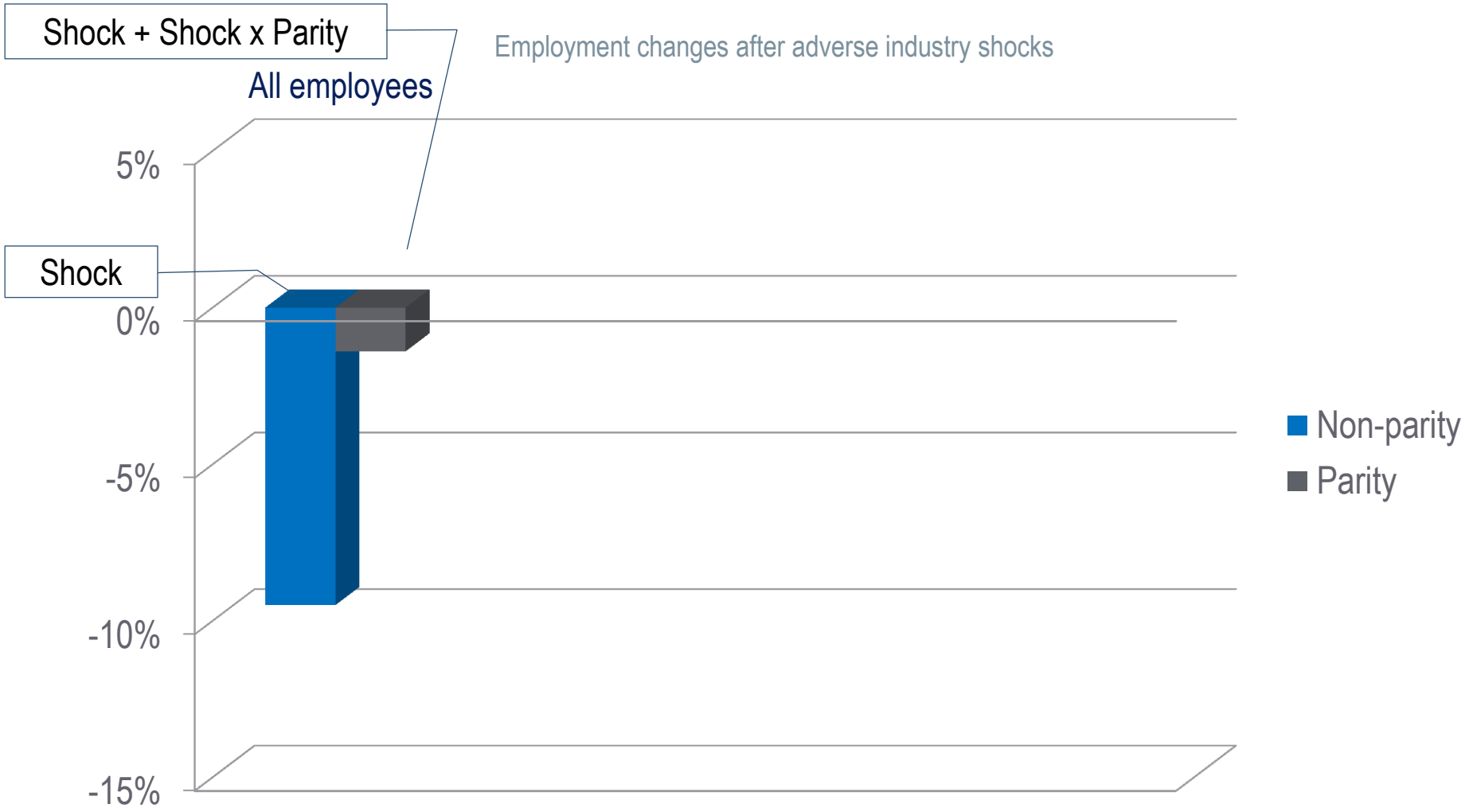
- Trends in average log changes of employment for establishments of parity (black line) and non-parity firms (gray line) in event time. Time = 0 is the first year of an industry shock.

Do parity firms protect their employees?

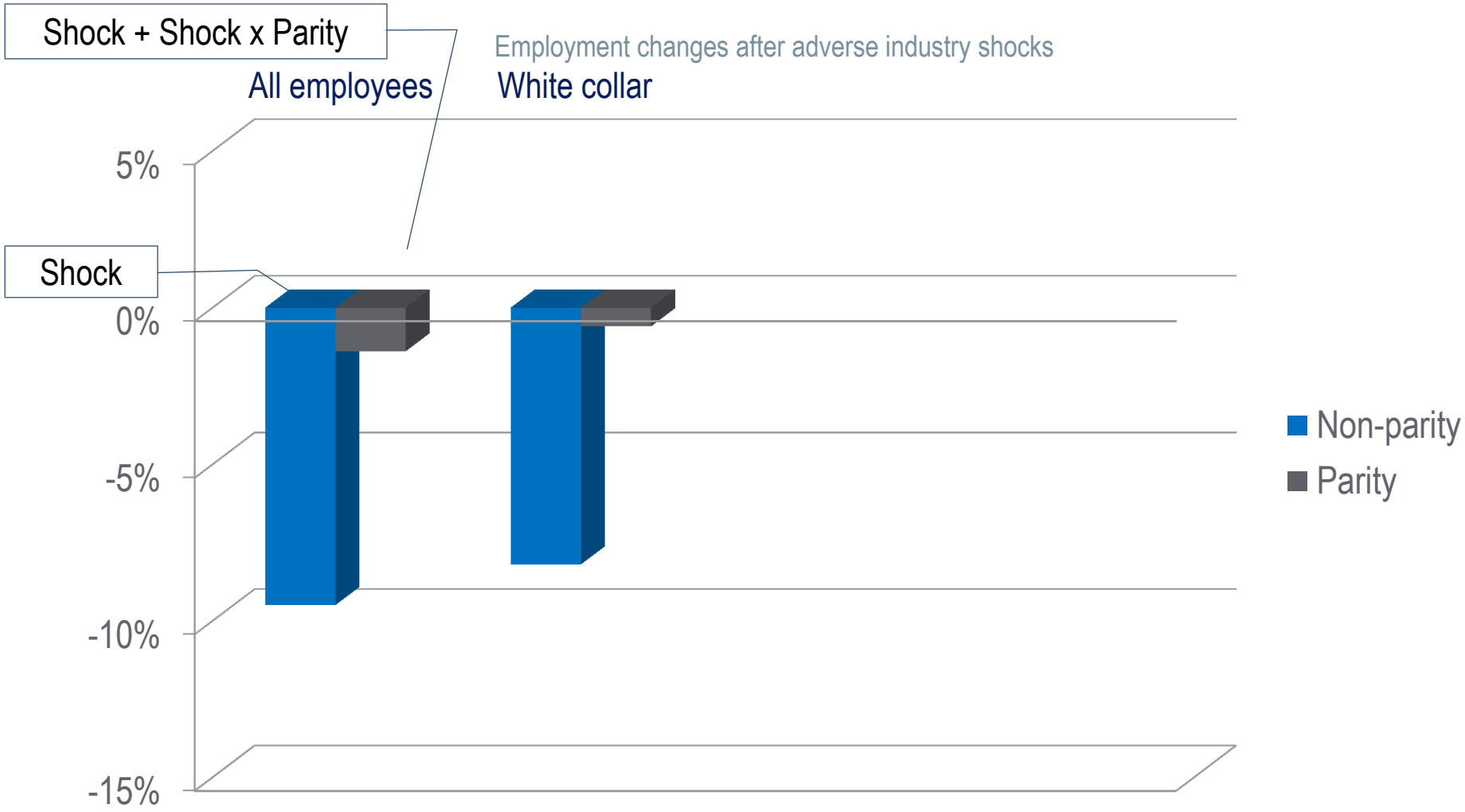
Dependent variable	log change in number of employees			
	(1)	(2)	(3)	(4)
Shock × Parity	0.0820	0.0810	0.064	0.0830
	(2.37)	(2.22)	(1.80)	(2.46)
Shock × LogFirmEmployees			0.264	
			(1.86)	
Shock × LogFirmEmployees²			-0.013	
			(-1.79)	
Shock	-0.0960	-0.0950	-1.323	-0.0970
	(-3.30)	(-3.05)	(-2.05)	(-3.44)
Parity	-0.0440	-0.0420	-0.039	8.6510
	(-1.39)	(-1.39)	(-1.27)	(3.34)
LogEstAge	-0.5940	-0.5940	-0.594	-0.5940
	(-10.8)	(-10.7)	(-10.8)	(-10.8)
LogSales	0.0050	-0.0120	-0.014	0.0060
	(0.22)	(-0.08)	(-0.10)	(0.30)
Leverage	-0.0160	-0.0180	-0.020	-0.0170
	(-0.34)	(-0.44)	(-0.48)	(-0.36)
LogFirmEmployees	0.0540	0.1470	0.137	
	(1.46)	(0.81)	(0.75)	
Year F.E.	Yes	Yes	Yes	Yes
Add. Employment Polynomials	No	No	No	Yes
Establishment F.E.	Yes	Yes	Yes	Yes

Additional controls: LogSales², LogFirmEmployees², LogFirmEmployees³

Employment protection all employees



Employment protection across occupational Status



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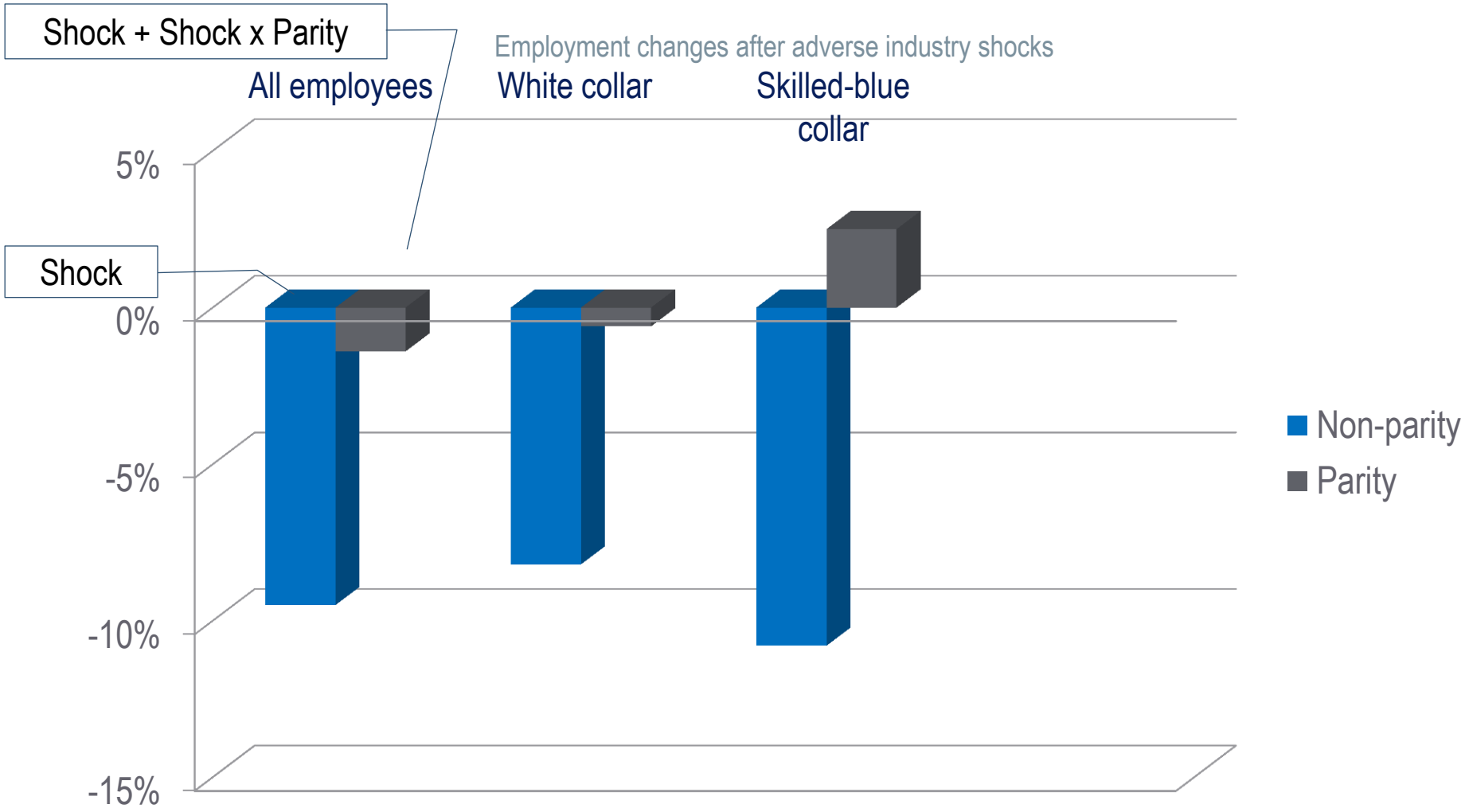

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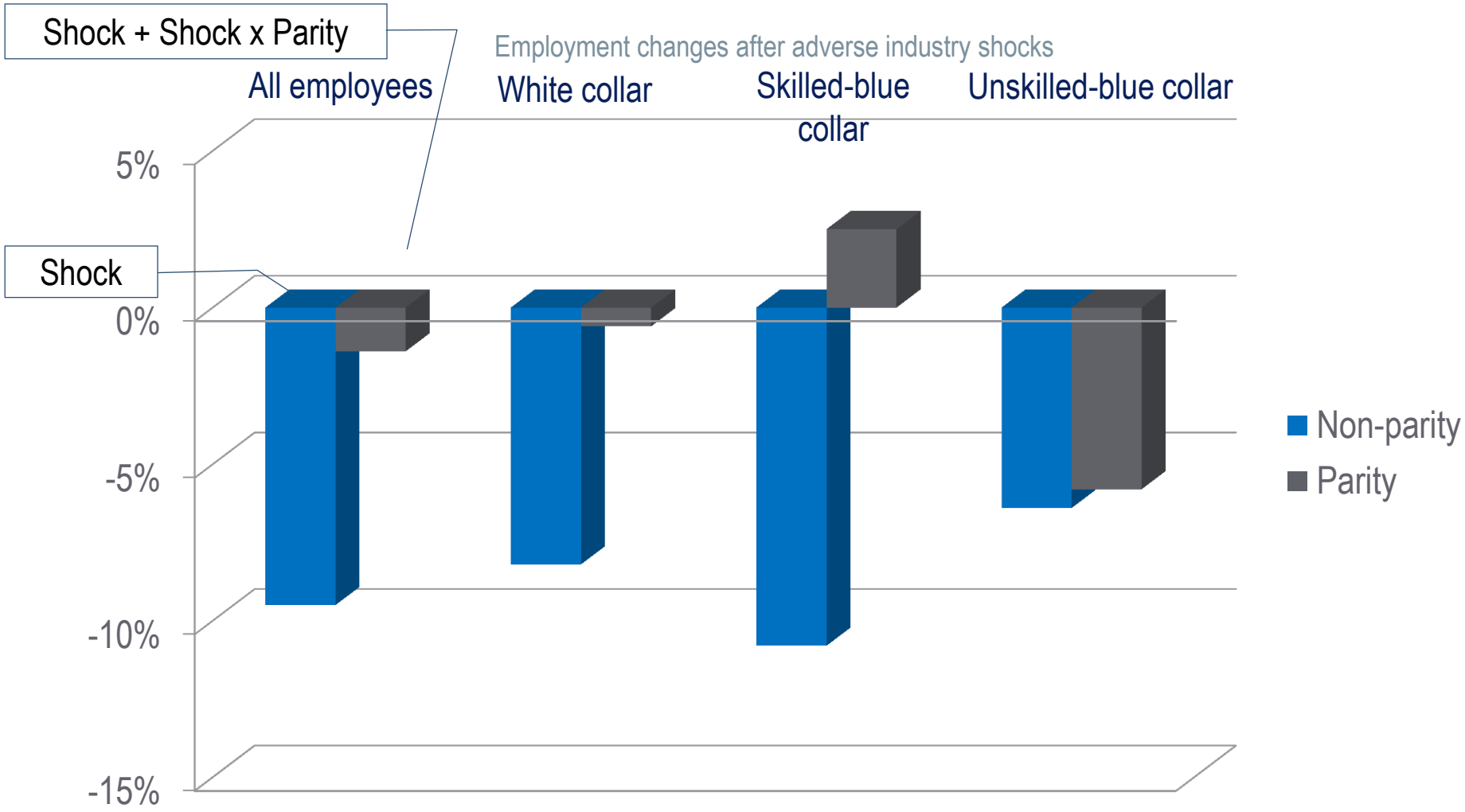
Employment protection across occupational Status



Why are unskilled and low-qualified workers not insured?

Employee representatives by occupation and qualification

Occupational status	1990	1999	2008
Unskilled blue collar	0.0%	0.0%	0.0%
Skilled blue collar	42.3%	22.5%	22.3%
White collar	36.1%	54.5%	56.3%
Union representative	21.6%	22.9%	21.4%
Sum	100.0%	100.0%	100.0%
Number of labor rep's (firms)	97 (15)	231 (35)	229 (48)

Qualification	1990	1999	2008
Low-qualified	0.0%	0.0%	0.0%
Qualified	86.8%	92.1%	59.4%
Highly qualified	13.2%	7.9%	40.6%
Sum	100.0%	100.0%	100.0%
Number of labor rep's (firms)	76 (15)	178 (35)	180 (48)

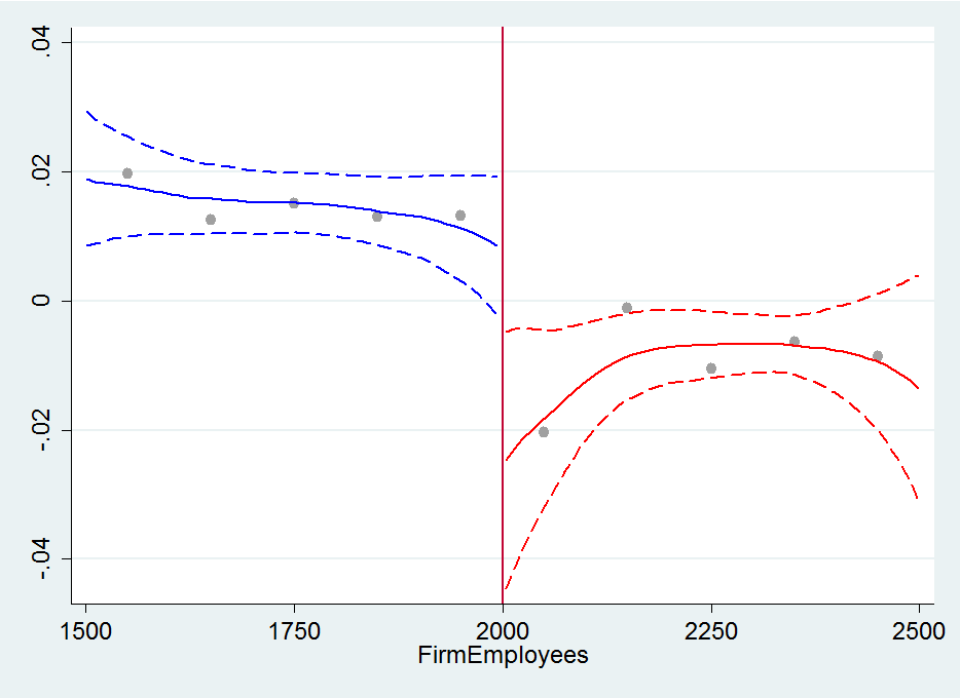
Breakdown by qualifications excludes union representatives

Do employees pay an insurance premium?

Dependent variable: Median wage of…	All Employees	Employees with higher educational qualifications	Employees with educational/ vocational qualifications	Employees w/o educational/ vocational qualifications
	(2)	(4)	(6)	(8)
Parity	-0.033	-0.031	-0.032	-0.034
	(-3.78)	(-2.56)	(-3.70)	(-1.66)
LogEstAge	0.049	0.060	0.051	0.030
	(3.42)	(6.06)	(3.49)	(1.79)
Logsales	-0.194	-0.018	-0.229	-0.046
	(-2.37)	(-0.32)	(-2.85)	(-0.52)
Leverage	-0.023	0.006	-0.015	-0.073
	(-0.90)	(0.29)	(-0.64)	(-2.85)
LogFirmEmployees	0.067	-0.053	0.065	0.023
	(0.77)	(-0.89)	(0.78)	(0.22)
adj. R^2	0.945	0.826	0.929	0.801
Observations	51,205	38,670	51,060	42,336
Year F.E.	Yes	Yes	Yes	Yes
Establishment F.E.	Yes	Yes	Yes	Yes

Additional controls: $LogFirmEmployees^2$, $LogSales^2$, Log#Employees, LogMedianEmplAge, RatioWhiteCollar

Regression discontinuity: wages



Dependent variable	Residual median daily wage
Parity (bw=1)	-0.033
	(-2.37)
Parity (bw=0.5)	-0.027
	(-1.71)
Parity (bw=2)	-0.033
	(-2.97)
Observations	4,575

Apply sharp regression discontinuity to residuals from wage regression (Regression (2), Table 7; exclude *Parity*). Bandwidth is optimal bandwidth from Imbens and Kalyanaraman (2012).

Conclusion

- Core employees of parity-codetermined firms receive employment insurance
  - Skilled blue-collar and white-collar workers benefit
  - Unskilled workers receive no protection
  - Partial financing through asset sales suggests firms care about core employees & assets
- Employees who receive insurance also pay a premium (~3%-3.5%)
  - Wages of unskilled workers may also be lower (significance marginal)
- Parity-codetermined firms have significantly larger operating leverage
  - Larger declines in ROA and Tobin‘s q, increase in CAPM beta with adverse industry shocks
  - But no measurable impact on performance and valuation
  - Maybe employees capture all the gains from more efficient risk-sharing