INSTITUTE FOR EMPLOYMENT RESEARCH
The Research Institute of the Federal Employment Agency

THE ANATOMY OF LABOR MARKET DISTRESS

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MOTIVATION

- Extensive literature shows (average) negative effects of worker displacements (Jacobson et al. (1993); Couch and Placzek (2010); Davis and von Wachter (2011); Lachowska et al. (2020), and Schmieder et al. (2023))

- Effect sizes extremely heterogenous and depend on worker and firm characteristics: age, gender, education, migration background, industry, occupation, tenure, economic conditions,...

MOTIVATION: RESEARCH QUESTION

- Can observable characteristics explain a large fraction of the loss variation or do other factors play a much bigger role?
- How many workers are resilient to displacement losses?
- Do workers who adjust to displacement have different coping strategies than observably similar workers who get disrupted by displacements?
- ***To answers these questions we have to estimate the entire distribution of displacement losses.***

CONTRIBUTION

Estimate the loss distribution by estimating a displacement loss for **each single** worker in the data

CONTRIBUTION

Synthetic control group approach:

- One treated unit
- Few donors (control units)
- Long observation periods

RESEARCH DESIGN: SYNTHETIC CONTROL GROUP FOR EACH TREATED WORKER

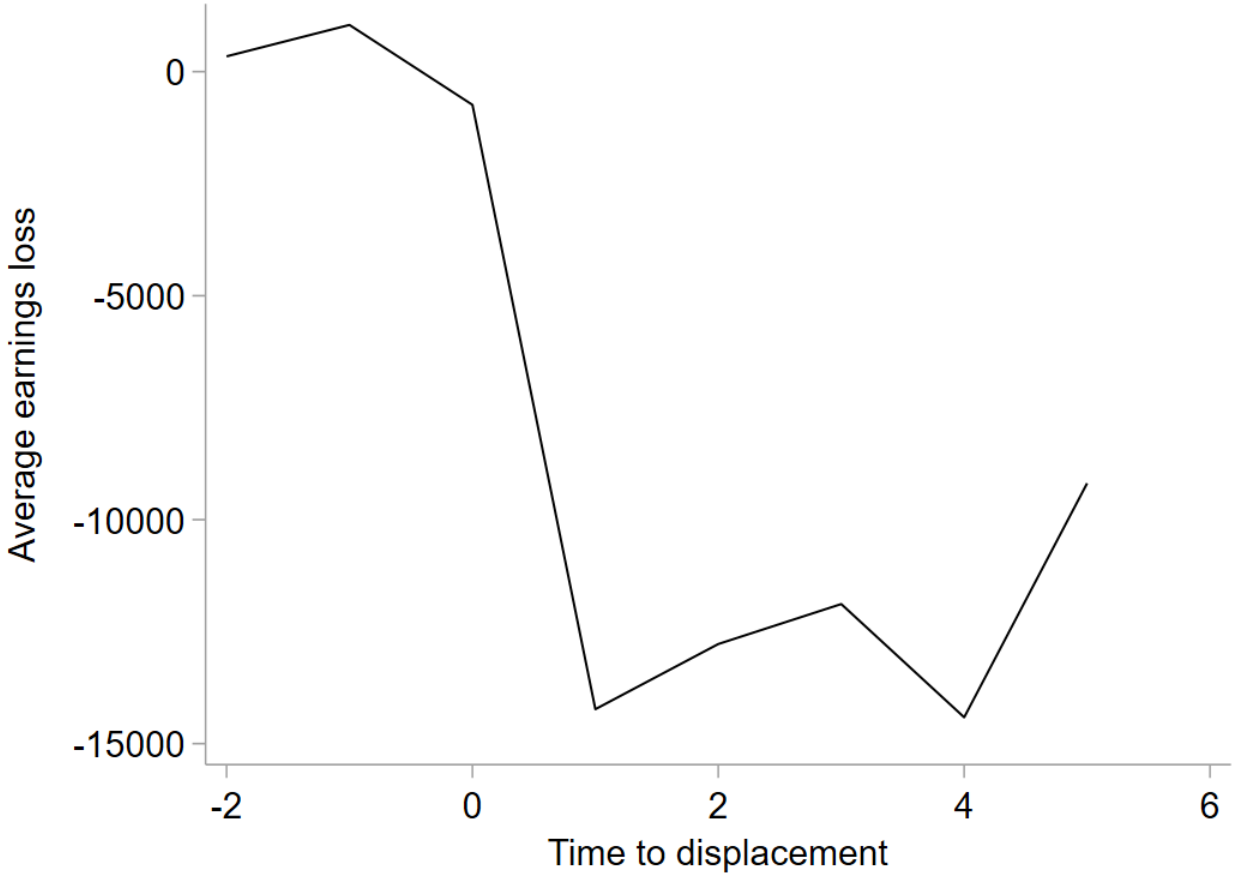
- First step: restrict donor pool (to avoid overfitting)
  - Select workers in region-gender-occupation-industry cell
  - Sample 20 workers based on residual distribution before closure

- Second step: Estimate treatment effect of closure as the difference between observed and synthetic control outcome across 5 years post-closure

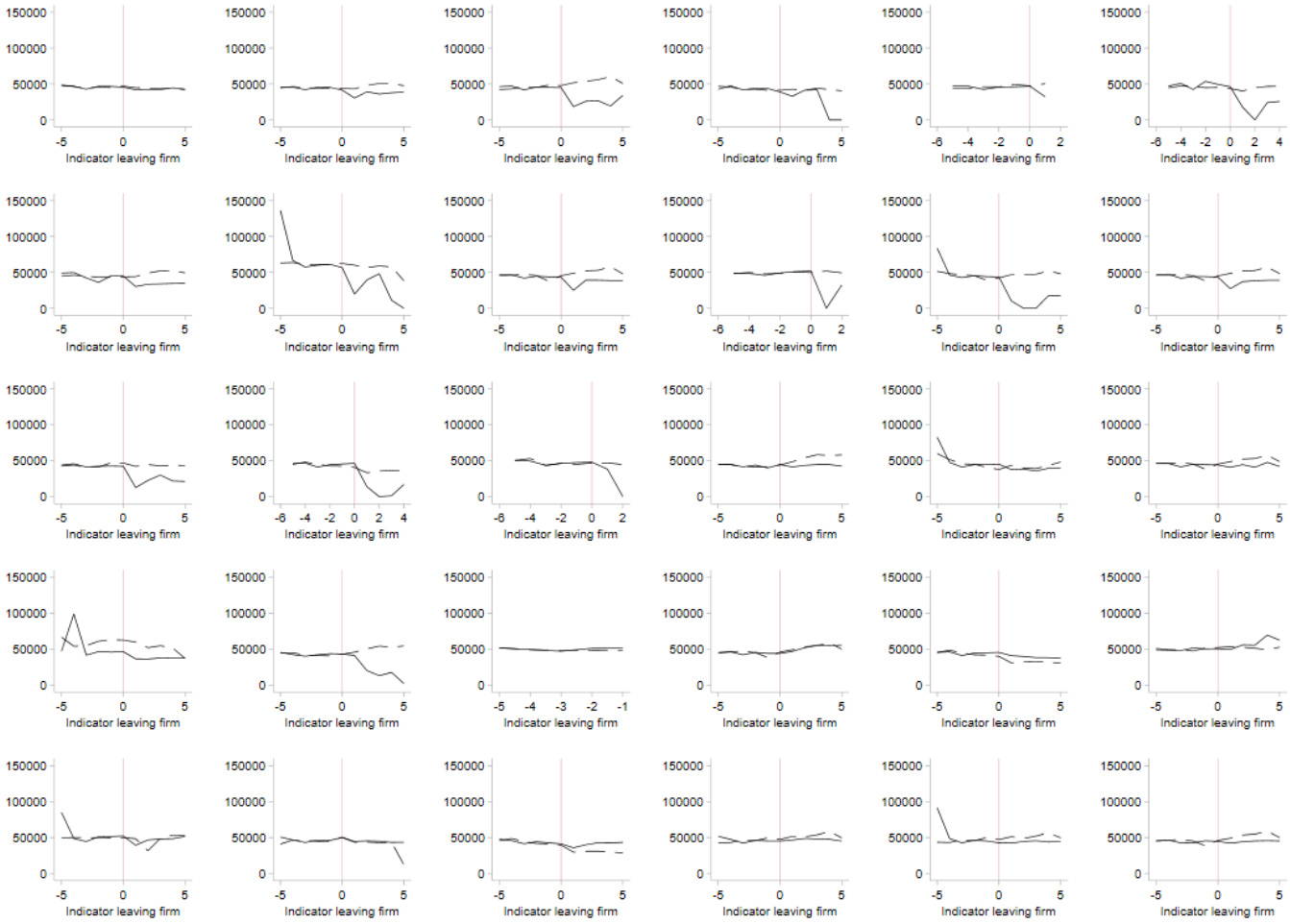
EXAMPLE: ONE SINGLE FIRM

- Manufacturing of refractory ceramic material and goods
- 30 Employees
- All men
- 10 have no degree; 20 have an apprenticeship degree
- 24 in occupation for industrial process and plant engineering for ceramic materials
- 5 machine builders
- 1 accountant

EXAMPLE: AVERAGE DISPLACEMENT LOSS



EXAMPLE: SYNTHETIC CONTROL GROUP



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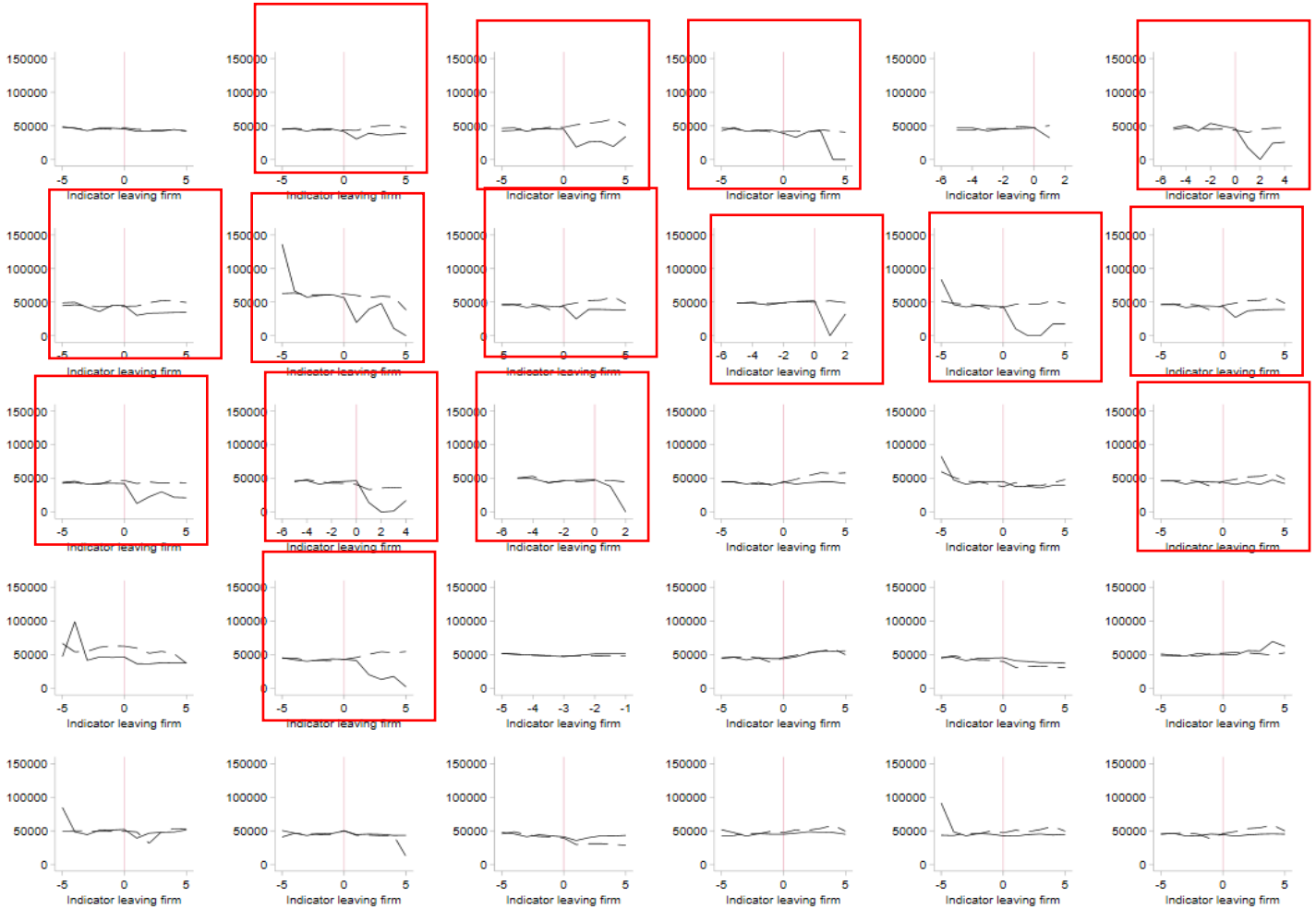

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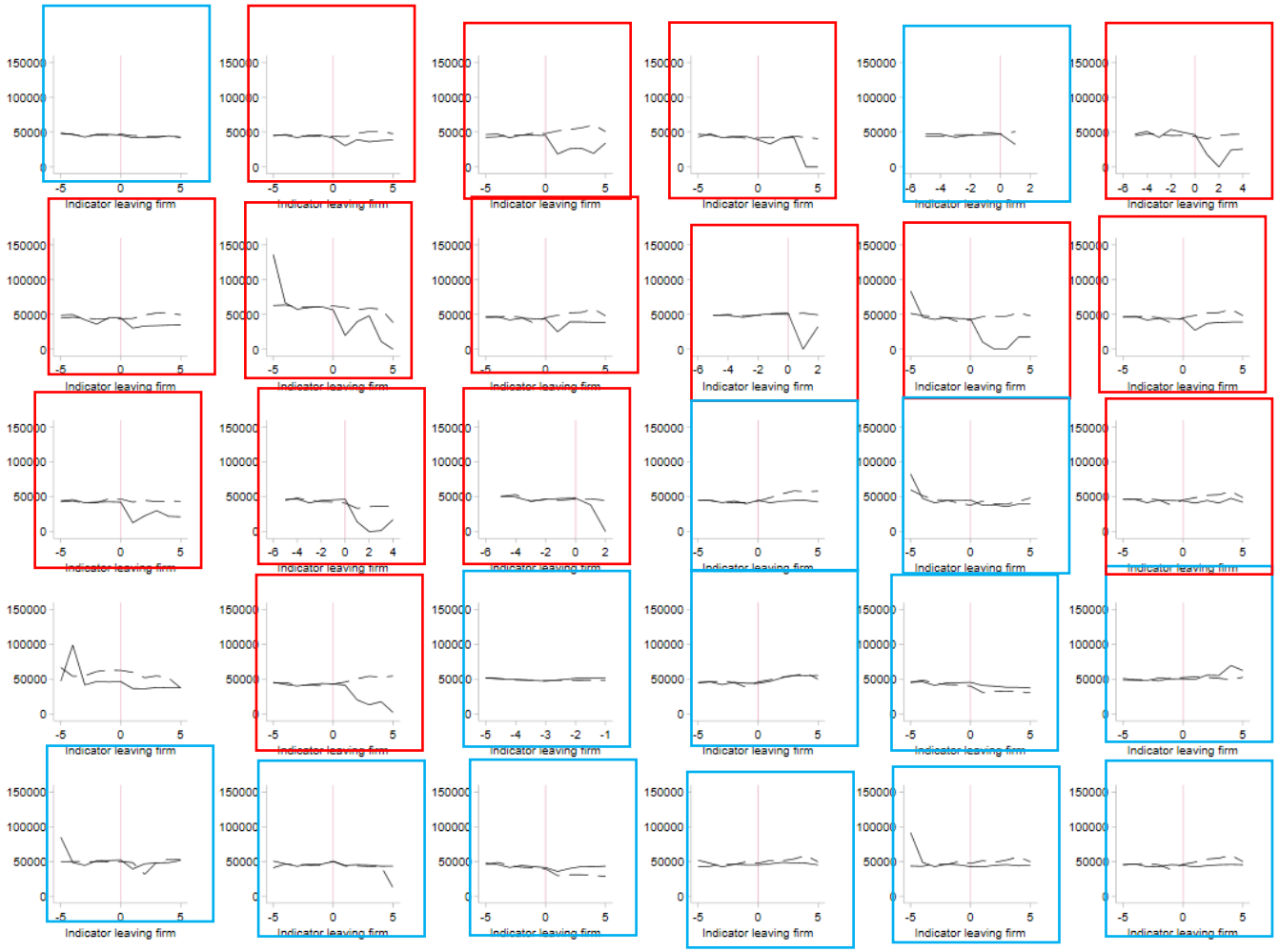
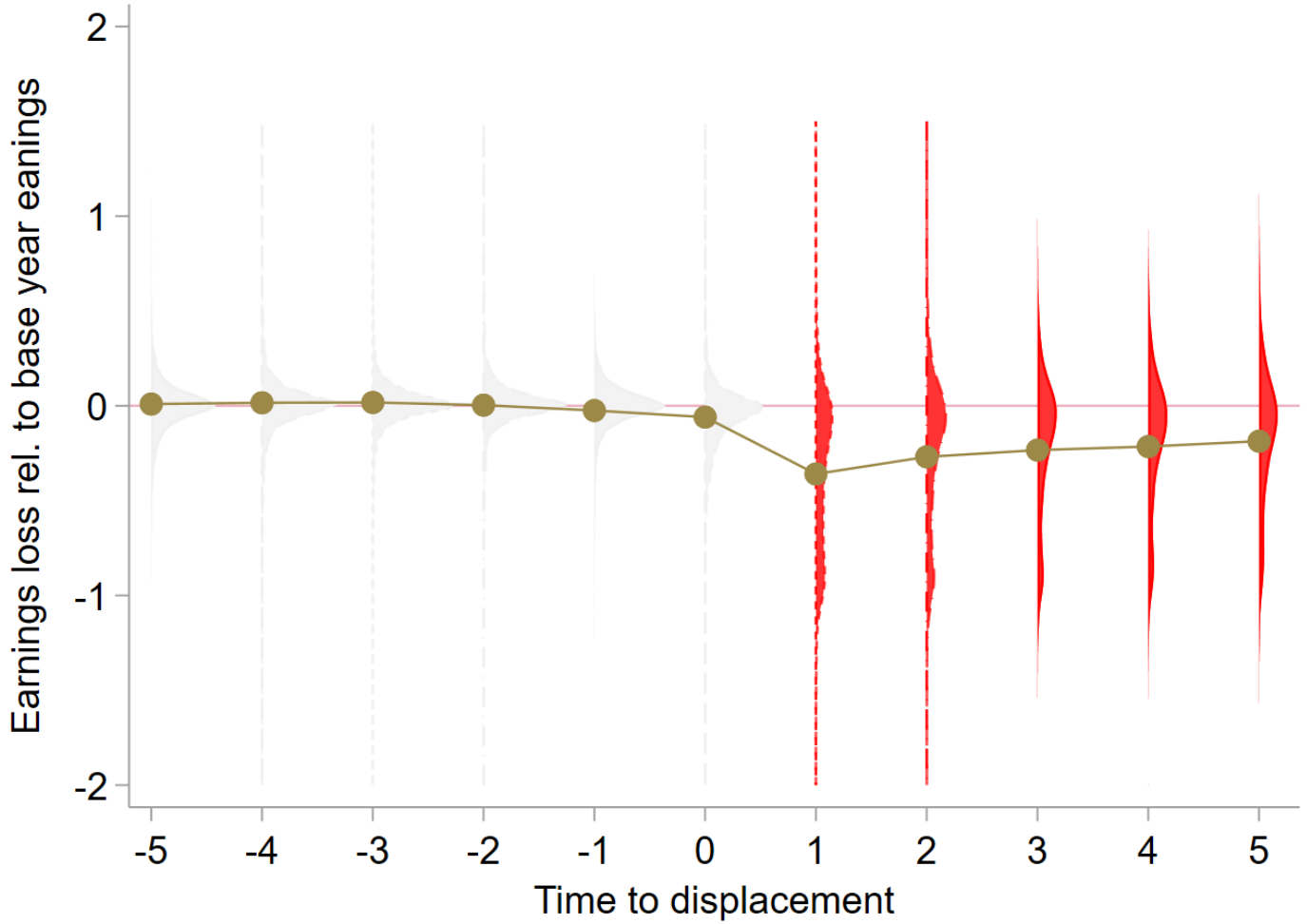


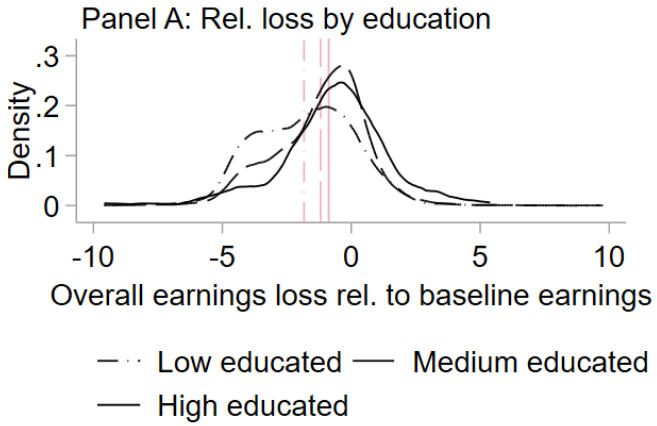
DATA AND SAMPLE CONSTRUCTION

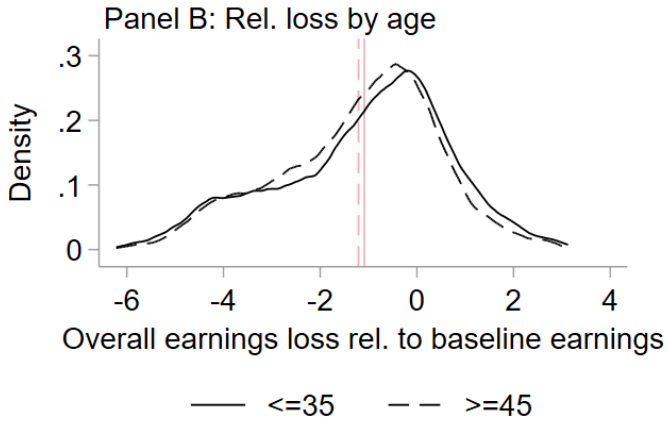
- Integrated employment biographies (IEB)
- Firm closures: atomized closures of firms with more than 50 employees before the closure (using BHP)
- Treatment group: Individuals who suffered firm closures between 2000 and 2005
  - Two years of tenure before treatment
  - No missing values in key analysis variables for at least five years before treatment
  - Younger than 55
  - 24243 treated individuals
- Outcomes of interest: earnings, days employed, occupation/region switching

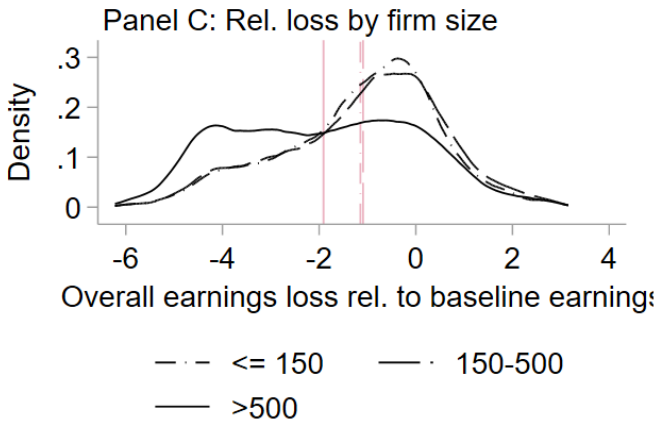
MAIN RESULT: EARNINGS LOSSES ARE HETEROGENEOUS AMONG LAID OFF WORKERS

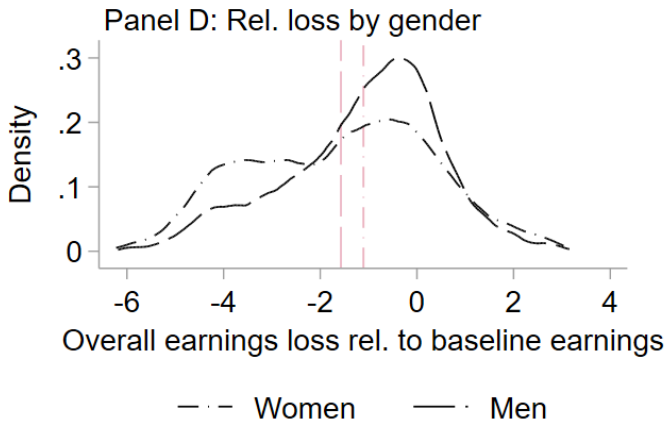


EARNINGS LOSSES DIFFER BY WORKER CATEGORIES

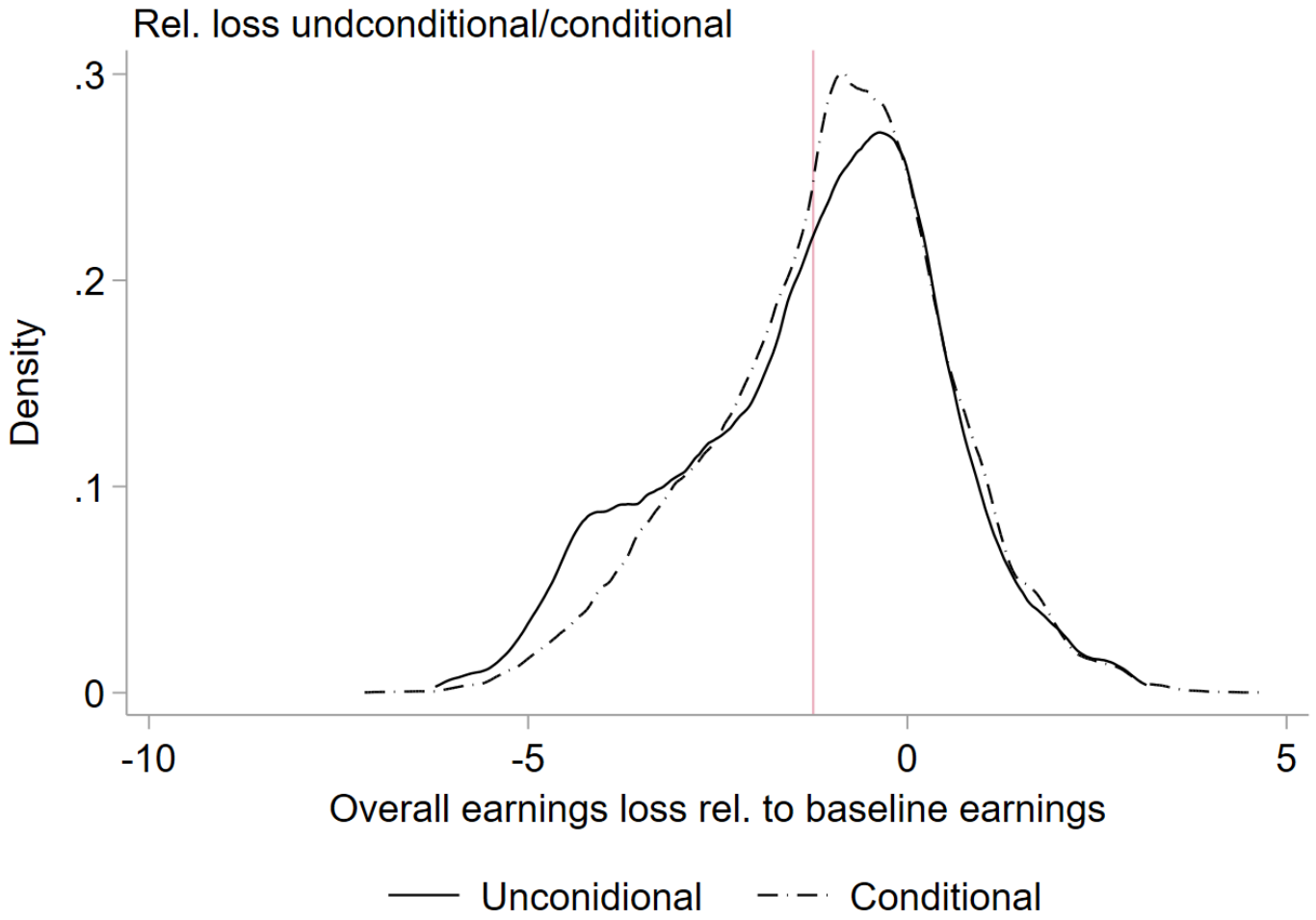








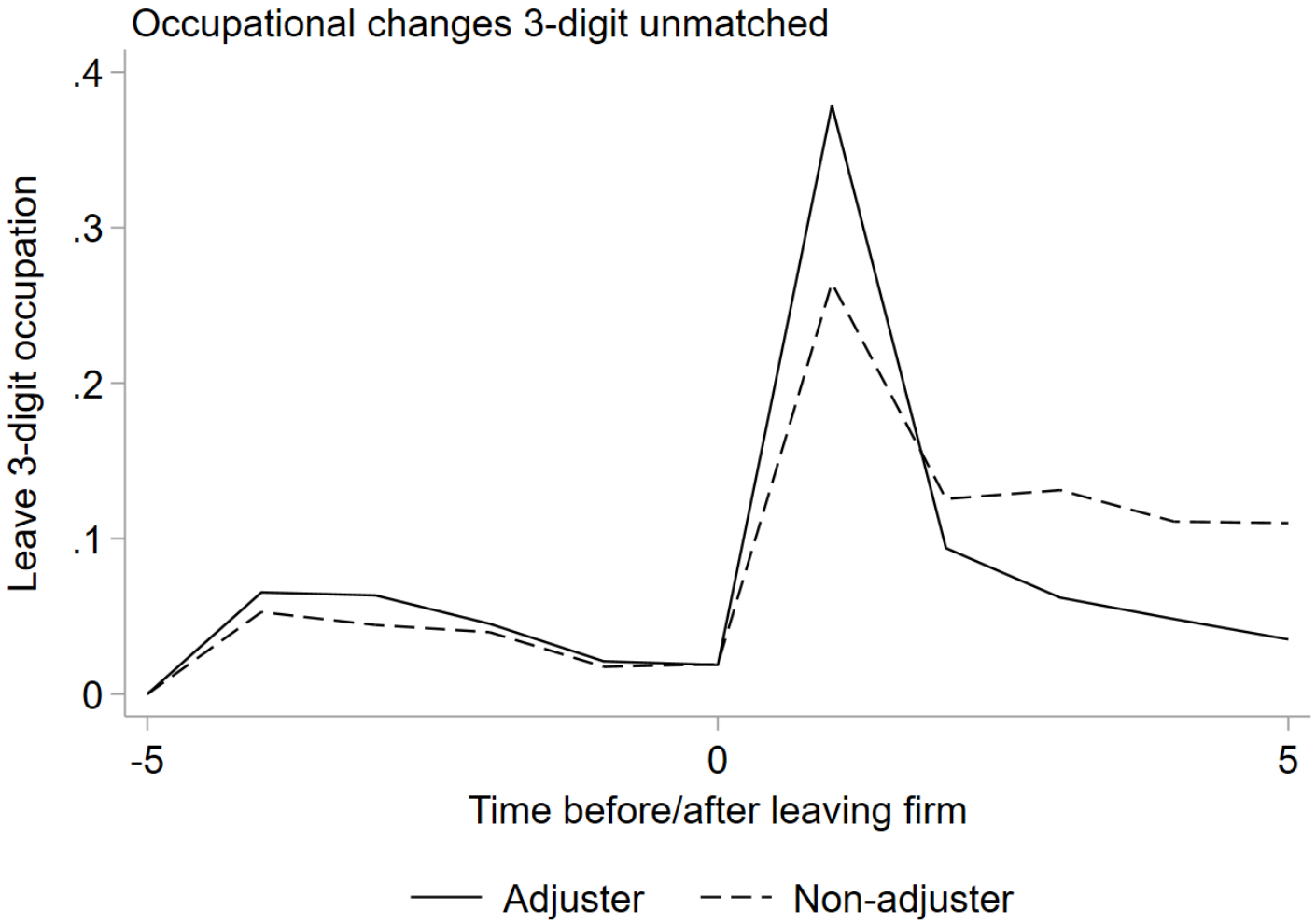
CONDITIONAL EARNINGS LOSSES



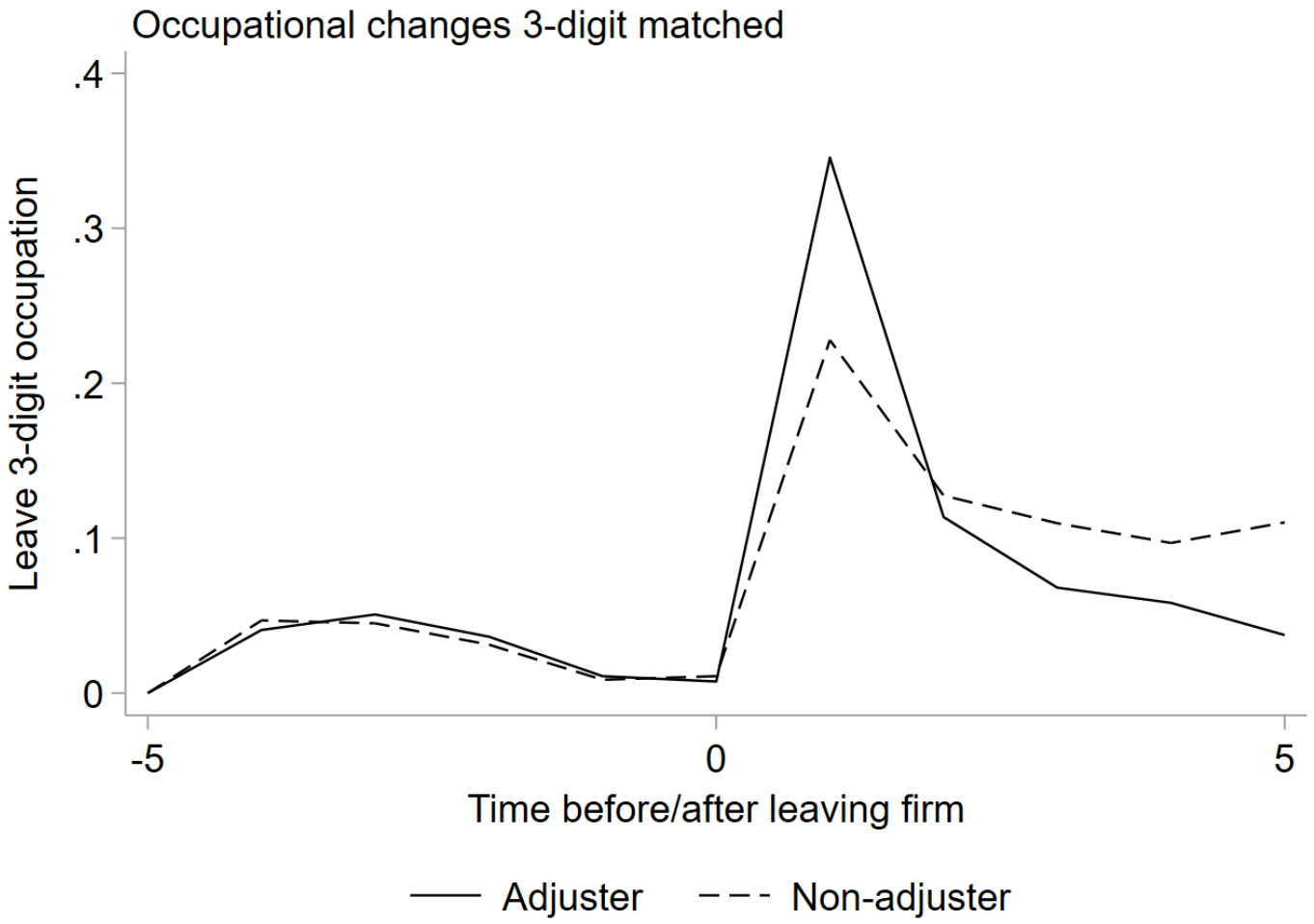
EARNINGS LOSSES EXPLAINED BY CATEGORY

	Loss	Pre-displacement wage (t-1)
All	0.189	0.656
Age	0.011	0.017
Education	0.017	0.158
Gender	0.015	0.172
Tenure	0.004	0.002
Occupation	0.039	0.324
Firm	0.156	0.482
Industry	0.090	0.356
Region	0.022	0.065

ADJUSTMENT PATTERN



ADJUSTMENT PATTERN



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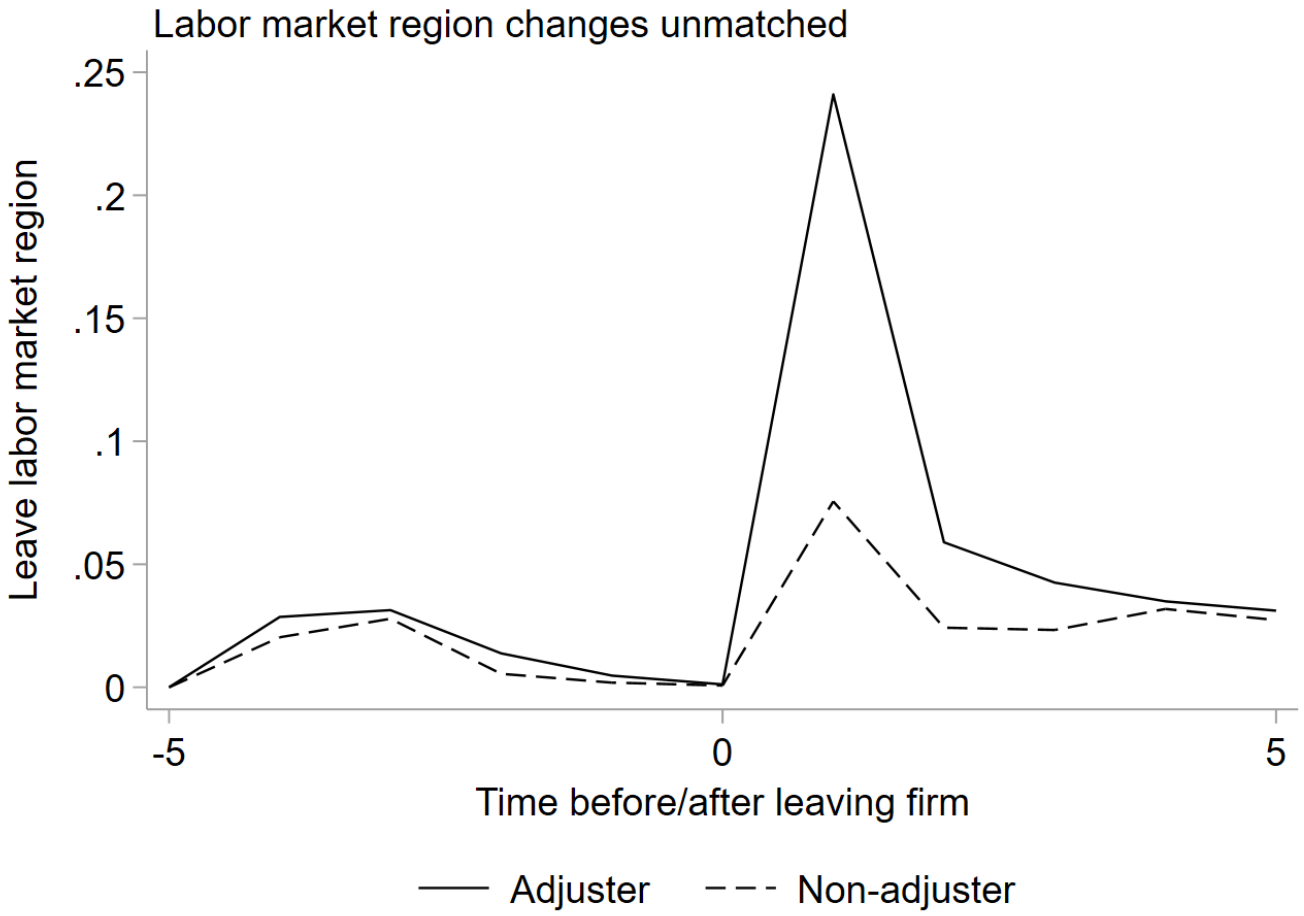

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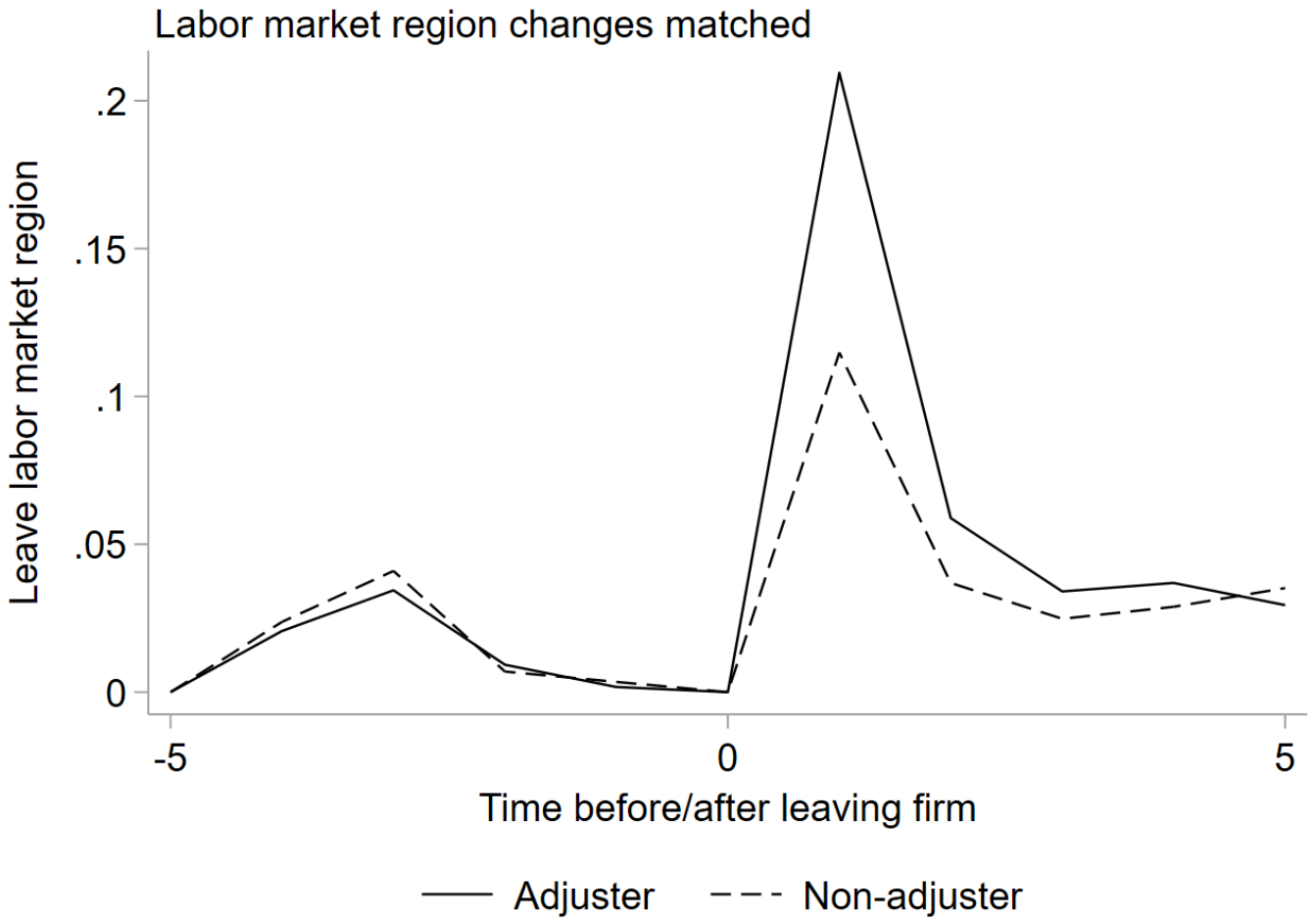

LOSS AFTER 5 YEARS EXPLAINED BY CATEGORY (R-SQUARED)

	Loss after 5 years
Age	0.011
Education	0.017
Gender	0.015
Occupation	0.053
Industry	0.091
Occupation switch pattern	0.164
Region switch pattern	0.246

WHERE WILL GO FROM HERE

- Analyze further adjustment margins
- Analyze within firm distributions
- Analyze shape of distributions in more detail