

The Costs of Job Displacement over the Business Cycle and Its Sources: Evidence from Germany

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Understanding the Cost of Job Loss

- **Two Key Findings from Existing Literature**
 - ① Job losers can experience very large & long lasting earnings losses (e.g., Jacobson, Lalonde and Sullivan 1993, Stevens 1997, Chan and Stevens 2001, Fairlie and Kletzer 2003, Couch and Placzek 2010, von Wachter, Song, and Manchester 2011, Flaen, Shapiro, Sorkin 2016, Lachowska, Mas, and Woodburry 2017)
 - ② Earnings losses have a large cyclical component, almost twice as high in recessions (Davis and von Wachter 2011, Farber 2016)
- **Longstanding question: sources of large and cyclical costs of job loss**
 - ‘Supply’ side explanations for cost of job loss
 - ‘Demand’ side explanations for cost of job loss: **Focus today!**

Sources of Cost of Job Loss Over Business Cycle

- **'Supply' side explanations for cost of job loss**

- Losses in skills, usually job specific (e.g., Neal 1995, Poletaev & Robinson 2008, Jarosch 2015)
- Losses in firm rents or match components (e.g., job search, job ladder models, Topel 1987, Lachowska, Mas, Woodburry 2017, Goldschmidt & Schmieder 2017)
- Job losers are adversely selected (e.g., Gibbons & Katz 1991, Hu & Taber 2005)

- **'Demand' side explanations for cost of job loss**

- lack of jobs in recessions & resulting nonemployment (e.g., Schmieder, von Wachter, Bender 2015)
- reduction in job quality in recessions (e.g., Okun 1973, McLaughlin & Bils 2002, Kahn & McEntarfer 2014)

- **Cyclical variation in cost of job interesting in its own right & helps understand mechanisms**

- Increasing evidence of cyclical downgrading in recessions. Also reallocation?

- **Very little research on sources of job loss over business cycle**

Today Analyze the Sources of Earnings Losses using Detailed German Data

- 1 Replicate the 2 key U.S. findings for Germany from 1980-2009
 - Size and persistent of Earnings Losses
 - Cyclicity of Earnings Losses
- 2 Distinguish between wage losses and losses in time worked & account for composition changes over business cycle
 - Distinguish between losses in days worked & in daily wages
 - Account for changes in worker composition over the cycle
- 3 Assess role of firm wage premiums in explaining wage losses over business cycle
 - Analyze effect of job loss on firm characteristics
 - Account for loss in wages using losses in firm fixed effects
 - Engage in a broader assessment of other channels as well

Summary of Main Findings

- 1 **Size, persistence, and cyclicity of losses is similar in Germany and the US**
 - Over short-term losses in days work matter, over longer-term wage loss matters
- 2 **Displaced workers see persistent losses in firm fixed effects, larger in recessions**
 - Loss is higher the higher pre-displacement firm fixed effect
- 3 **Change in firm fixed effects can explain large part of cyclicity in cost of job loss**
 - Change in worker & firm composition over cycle matters little
 - Nonemployment duration also matters & correlated with firm fixed effects

Overall, clear indication that demand side matters in explaining cost of job loss

Replicate & Extend Literature with German Data

- **Take exact same definitions of job loss as U.S. literature**
 - Job loss = separation of worker with 3+ years of job tenure from size 50+ employer during a mass layoff of 30% or more
 - Compare job losers to a control group of similar workers not leaving firm during mass layoff year
 - Approach has same pros & cons as existing job loss literature on administrative data
- **Data has some key advantages for this project**
 - 1 Have detailed worker information (e.g., daily employment transitions, occupation and education)
 - 2 Can distinguish between daily wages, days worked, and annual earnings for layoffs from 1980-2009
 - 3 Can estimate worker and firm FE from 100% data that are consistent for entire period

Estimating the Cost of Job Loss

Step 1: Implement standard treatment and control comparison before/after job loss

- **Propensity score matching** to select a comparable non-displaced worker for every displaced worker → More
- Obtain very similar pre-trends & identical levels prior to job loss. → More
- Very robust to alternative methods (e.g., DiD with controls)

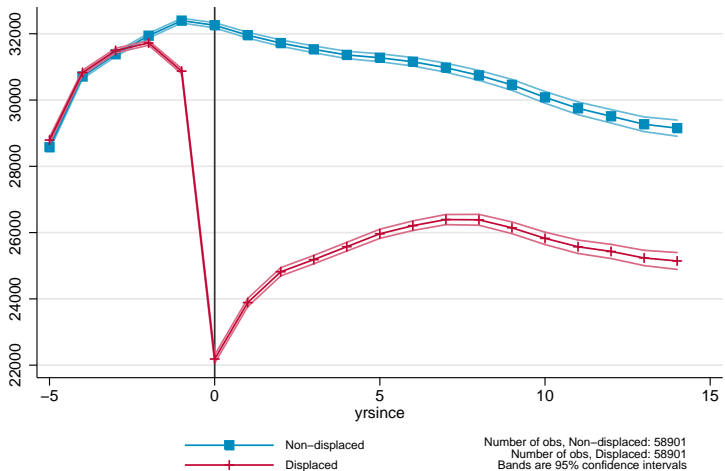
Step 2: Replicate this separately for each year in sample and correlate with business cycle

- Obtain estimates very close to Davis and von Wachter (2011)

Step 3: Use worker-level treatment effect to account for channels

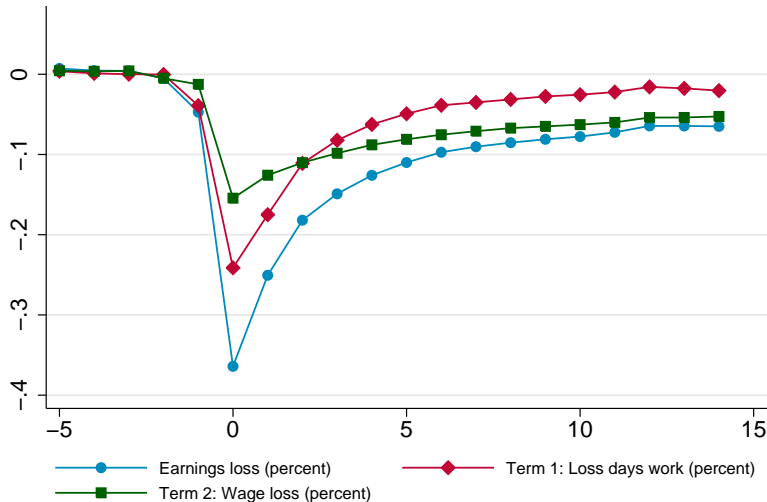
- Control directly for potential effects of changes in worker & firm composition
- Isolate role of changes in (A) firms displacing workers and (B) firms hiring job losers

Mean Earnings of Displaced vs. Non-Displaced Workers - 1979 - 2008



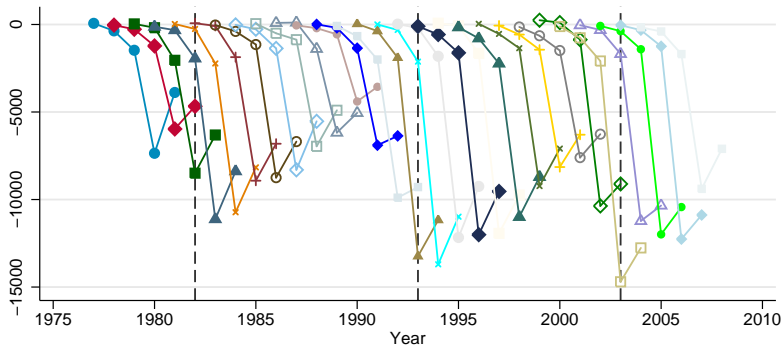
- Displaced workers experience large and persistent earnings losses, about 35% in short run and about 15% in the long run.

Decomposition of Earnings Losses into Wage Losses and Loss in Days Worked - 1979 - 2008



- Days worked matter in the short run - long-run earnings loss driven by persistent reduction in daily wages

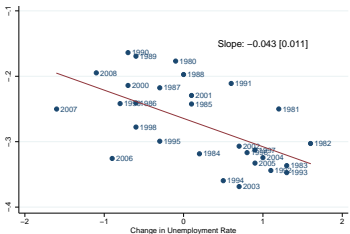
Earnings Losses of Job Losers in first 2 years after Job Loss



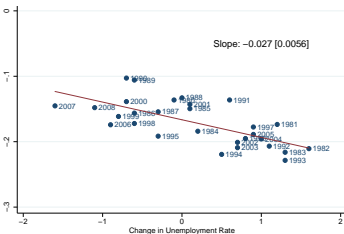
- Earnings losses of job losers are very cyclical (vertical dashed lines = though of recessions)
- Earnings recovery stops after about 3-4 years (not shown)

Decomposition of Cyclical Earnings Losses into Wage & Empl. Losses

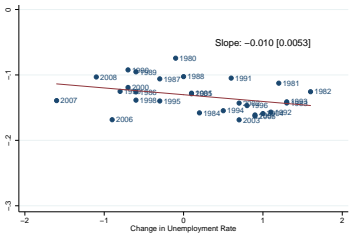
Total Earnings loss



Earnings loss due to loss in days worked



Earnings loss due to wage loss



- Cyclicity of earnings losses very similar to comparable estimates in U.S. → More
- Short-run cyclicity of earnings losses driven by losses in days worked, medium to long-run losses by losses in wages → More

Analyze Changes in Employer Characteristics at Job Loss

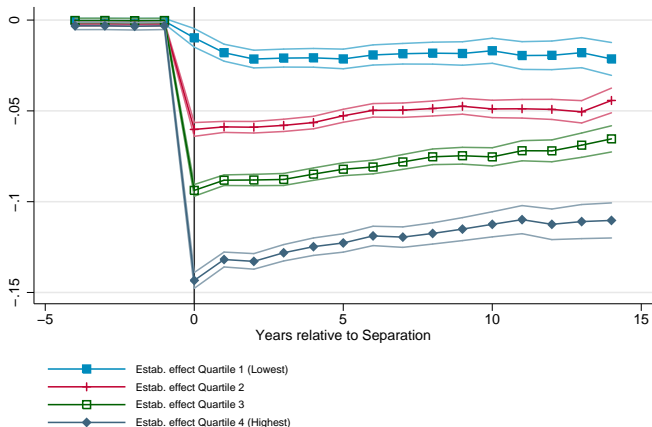
Our principal measure of employer characteristics- firm fixed effects (FE)

- Firm FE have been shown to be an important component of earnings in Germany and US (Abowd, Kramarz, Margolis 1999, Card, Heining, Kline 2014, Price, Song, Guvenen, Bloom, von Wachter 2016) → AKM
- Firm FE have been shown to be positively correlated with other quality measures
- Interpret literally as firm rents, or proxy for quality of firm.
- Calculated one firm effect for each firm over our entire sample period

Additional measures of firm quality - firm size (in paper)

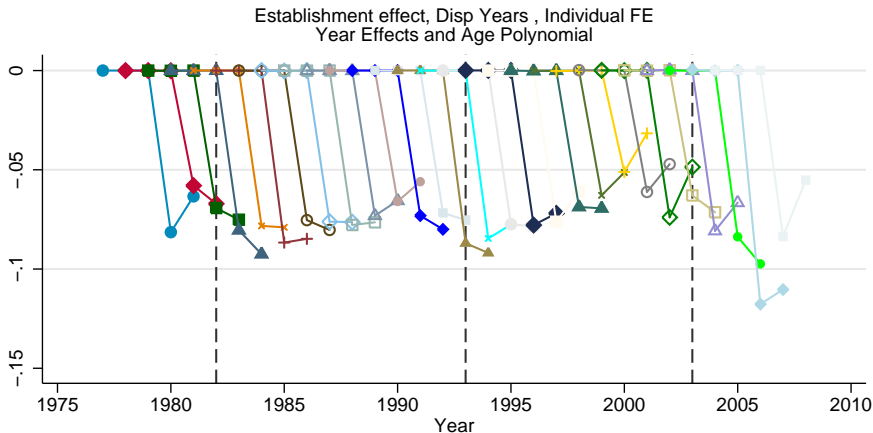
- To corroborate the evidence from firm FE, we also analyzed changes in other firm characteristics
- Focus on firm size and measures of worker turnover rates

Losses in Firm FE by Firm FE of Employer



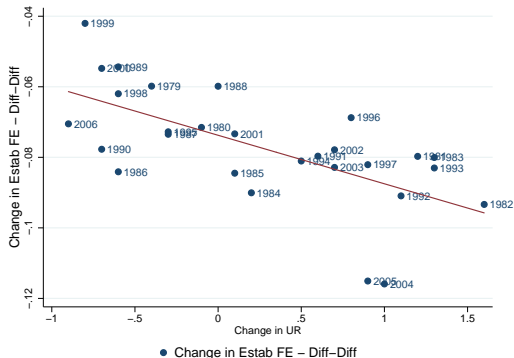
- For all but the lowest FE class see substantial and permanent losses in firm FE, despite some initial recovery
- Loss increases with initial level, but not 1-to-1 loss (regression coefficient of change in FFE on initial level is about 0.5) → in Levels → Distribution

Firm fixed effect in first 3 years after Job Loss



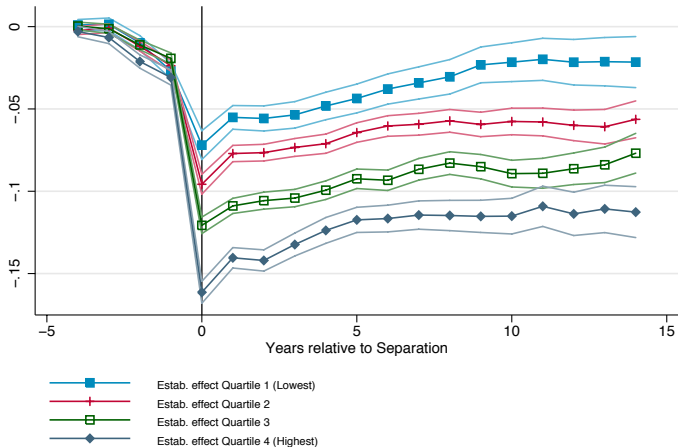
- Losses in establishment fixed effects are also higher during recessions!

Change of Establishment FE of Disp. Workers vs Unemployment Rate



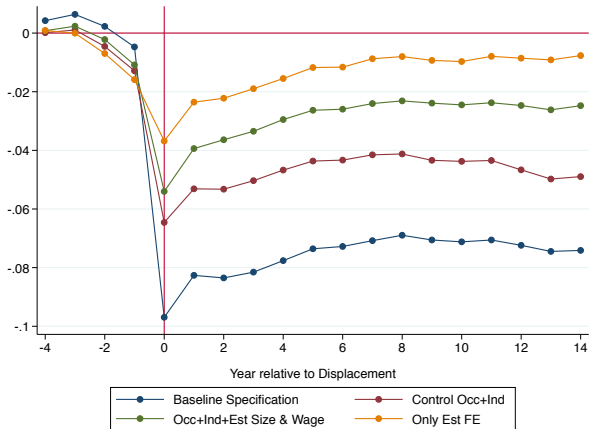
- Losses in establishment FE are also higher in recessions!

Wage Losses by Firm FE of Employer



- For all firm FE classes see substantial loss in wages. This is very persistent for all but the bottom FE group
- There is a close correspondence between wage losses and losses in firm FE (coefficient of 0.8). → More

Pooling All Displacement Years, Loss in Firm FE Alone Explain Most of Earnings Loss



- Firm FE largest single factor in explaining wage losses → More
- Appears to capture differences by occupation and industries as well.

Putting Things Together - Cycle

- We generate an individual measure of job loss:

$$\Delta_{dd}W_{it} = \Delta_dW_{it} - \Delta_{nd}W_{it}$$

where Δ_dW_{it} is the short-term individual wage change before (-5 to -1 years) & after (1 to 3 years) job displacement (and $\Delta_{nd}W_{it}$ is the wage change for the best match from control group).

- To investigate the cyclicity of the cost of job loss we estimate:

$$\Delta_{dd}W_{it} = \beta UR + \gamma \hat{\psi}_{J(i,t)} + \delta \hat{\alpha}_i + t\pi_1 + t^2\pi_2 + \varepsilon$$

where UR is the unemployment rate (or annual change in the UR).

- To control for changes in worker and firm composition** we control for $\hat{\alpha}_i$ (the estimated individual FE) and $\hat{\psi}_{J(i,t)}$ (the estimated establishment FE before displacement).
- In order to see the **role played by the establishment where displaced workers end up** we estimate:

$$\Delta_{dd}W_{it} = \beta UR + \gamma \Delta_{dd}\hat{\psi}_{J(i,t)} + \delta \hat{\alpha}_i + t\pi_1 + t^2\pi_2 + \varepsilon$$

Accounting for Composition Changes and Losses in Firm Quality

| | (1) log wage | (2) log wage | (3) log wage | (4) log wage | (5) log wage |
|---|----------------------|--------------------|----------------------|----------------------|----------------------|
| Panel A: Change in Unemployment Rate | | | | | |
| Change in UR t-1 to t | -0.028 (0.0014)** | | -0.029 (0.0014)** | -0.016 (0.0012)** | -0.013 (0.0012)** |
| Establishment effect | | -0.32 (0.012)** | -0.33 (0.011)** | | |
| Worker effect | | 0.18 (0.0030)** | 0.18 (0.0030)** | | |
| Change in Estab FE | | | | 0.79 (0.0054)** | 1 |

Notes: Regressions control for year and year squared. The unemployment rate and the change in the unemployment rate is measured in percentage points and is the unemployment rate for West Germany. Column 5 regresses the log wage loss on the unemployment rate (change in UR) controlling for the change in the establishment effect, where the coefficient on the establishment effect is forced to be equal to 1.

- 1 The composition of who is displaced (and what firm is displacing) plays almost no role.
- 2 About half of the cyclicity is explained by the change in firm fixed effects.

Sensitivity Analysis

Key Findings:

- 1 Important part of cyclical variation in wage losses explained by losses in firm fixed effects
- 2 Losses in firm effects also explain a substantial share of the total variation in cost of job loss
- 3 Little effect of composition changes in worker or firm types

Sensitivity:

- Results hold for women (or men and women pooled)
- Replicated this using 10 year wage losses - results strengthen
- Replicated this using pre-displacement measure of worker effects
- Corroborated findings using other measures of firm 'quality'
- Outstanding: Split-sample estimates of firm fixed effects

Analysis of Other Channels of Wage Losses

Range of Candidates from Literature:

- 1 Worker characteristics: education, labor market experience
- 2 Pre-displacement career: job tenure, industry/occupation tenure
- 3 Pre-displacement firm: firm size, union status
- 4 Post-displacement career: industry/occupation switches, nonemployment duration

Here focus on post-displacement career outcomes:

- 1 Analyzed several channels, but these appeared to be most relevant to cycle
- 2 Find important role for nonemployment duration, less so for industry-switching

Control for Additional Post-Job Loss Career Variables

| | (1) | (2) | (3) | (4) |
|-----------------------|----------------------|----------------------|----------------------|-----------------------|
| Change in UR t-1 to t | -0.018 (0.0015)** | -0.018 (0.0015)** | -0.012 (0.0013)** | -0.0095 (0.0014)** |
| Establishment effect | | -0.34 (0.012)** | | |
| Change in Estab FE | | | 0.69 (0.0060)** | 1 |
| Worker FE (Std) | 0.14 (0.0042)** | 0.12 (0.0045)** | 0.075 (0.0039)** | 0.056 (0.0040)** |
| Nonemp. Dur. (Years) | -0.11 (0.0024)** | -0.11 (0.0025)** | -0.058 (0.0022)** | -0.037 (0.0023)** |
| Occ. change | | -0.033 (0.0024)** | -0.016 (0.0020)** | -0.0086 (0.0021)** |
| Ind. change | | -0.045 (0.0025)** | -0.024 (0.0022)** | -0.015 (0.0022)** |
| Mean Dep. Var. | -0.088 | -0.088 | -0.088 | -0.088 |
| N | 43136 | 36555 | 36555 | 36555 |
| R ² | 0.14 | 0.17 | 0.38 | 0.057 |

- 1 Nonemployment duration prior to reemployment plays an important role (Schmieder, von Wachter, Bender 2017)
- 2 Longer nonemployment duration correlated with lower estab. FE
- 3 Cond. on estab. FE, changes in industry & occupation matter little → More

Summary of analysis of losses in specific skills

Three findings:

- 1 Industry switchers have larger wage losses (as in Jacobson, Lalonde, Sullivan 1993, Neal 1995)
- 2 Incidence of industry switching tends to rise in recessions relative to expansions
- 3 However, it appears that an important part of those losses explained by reductions in FFE
- 4 Role of firm fixed effects holds within industries (i.e., for those staying in the same 3-digit industry) → More

Overall, it appears that:

- 1 Changes in industry and occupations at least in part reflect reductions in firm fixed effects
- 2 Losses in industry-specific skills unlikely to explain cyclicalities of wage losses beyond losses in FFE

Conclusion

- In this paper we have used high quality German data to analyze the sources behind large & cyclical costs of job loss
- ① Germany experienced similarly large earnings losses as in the US.
 - About 30-35% in the short run and about 15% in the long run.
- ② Using the unique features of the German data we show that:
 - Short-term losses & their cyclicity are explained by employment changes, long term losses by wage reductions.
- ③ **Moves down the firm-quality distribution explains an important amount of the level & cyclicity of cost of job loss.**
 - **Points to an important demand-side contribution to explaining the cost of job loss**

Bonus Slide - Losses in Firm FE by Worker Type

Two common possible explanations of losses in firm FE

- 1 Outsourcing: high-wage firms displace their low-wage workers
- 2 Job Ladder models: there is a ranking of workers to firms, and unlucky low FE workers go to end of the queue

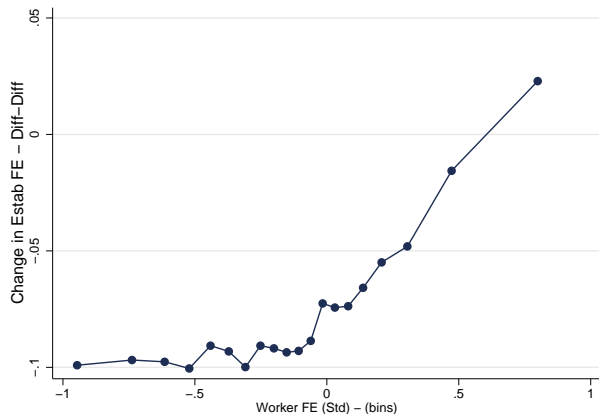
Analyzed losses in firm FE by worker FE:

- 1 Find strong gradient of losses in firm FE and losses in wages by worker FE
- 2 Hence, job losses tends to increase the correlation of worker & firm FE
- 3 This loss is increasing over time, consistent with increasing outsourcing and sorting in Germany
- 4 Low-Wage workers coming from high FE firms have higher losses

Overall, it appears that:

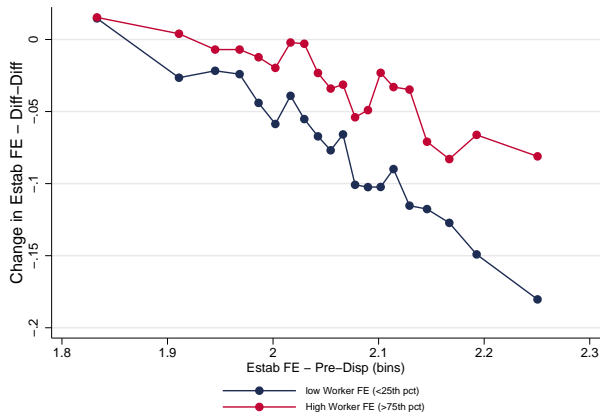
- 1 Patterns consistent with a job ladder views of labor market
- 2 Trends consistent with increasing incidence of outsourcing

Bonus Slide - Losses in Firm FE by Worker Type



- Strong gradient in losses in firm FE by worker FE.
- This gradient becomes steeper in the 2000s when outsourcing rises.

Bonus Slide - Losses in Firm FE by Worker Type



- For a given pre-displacement employer FE, low-wage workers experience higher losses in firm FE.

Bonus Slide - Cyclicalities of Losses by Worker Type

Two Findings Regarding Cyclicalities of Losses by Worker FE

- ① No change in the gradient of losses in FFE by worker type
- ② Larger earnings losses for low FE workers in recessions - but not due to larger firm FE losses
 - Consistent with the fact that low-wage workers have longer unemployment durations

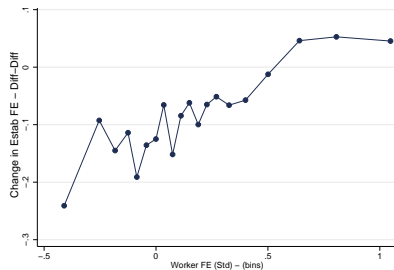
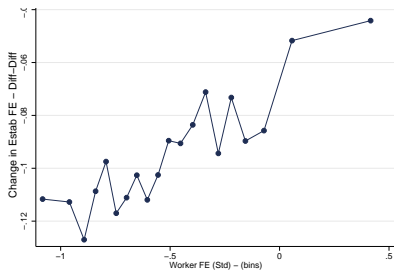
Overall, it appears that:

- ① Outsourcing present, but unlikely to rise in recessions (see also Dorn, Schmieder, and Spletzer 2018)
 - Consistent with the fact that pre-displacement firm did not explain cyclicalities
- ② Instead, all worker types downgraded to lower FE employer in recessions
 - High-wage workers still do much better than low wage workers

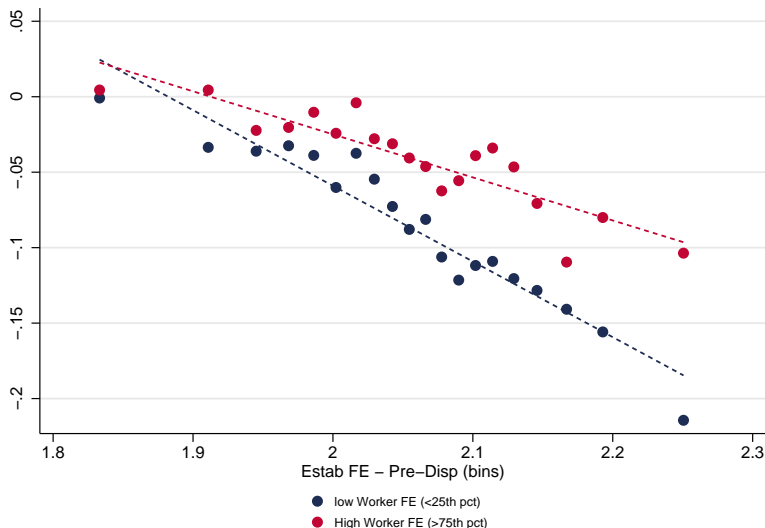
This is a story about what happens in the external labor market during the cycle, not within displacing firms

Appendix

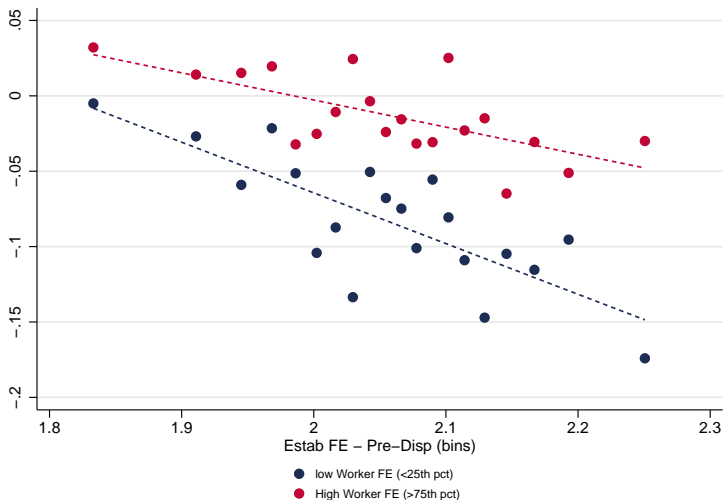
Bonus Slide - Losses in FEE by WFE: 1985 vs. 2003



Bonus Slide - Losses in Firm FE by Worker Type



Bonus Slide - Losses in Firm FE by Worker Type



● Change UR < -0.5

Matching Approach

- Step 1: Estimate propensity score (Step-Matching)
 - First take all workers in the same 1-digit industry
 - Then estimate propensity of being displaced as function of establishment size in year t , the log wage in year $t - 1$ and $t - 2$, as well as education, tenure and age in year t
- Step 2: Nearest Neighbor Matching
 - Pair each displaced workers with the non-displaced worker with the closest propensity score

→ Back

Event Study Analysis

- Using matched samples of workers, we use event study approach:

$$y_{it} = \gamma_i + \gamma_1 I(\text{disp}) + \sum_{j=-4}^{10} \delta_j I(t = t^* + j) I(\text{disp}) + \alpha_{tc} + x_{it} \beta + \varepsilon_{it} \quad (1)$$

- $I(\text{disp})$ is an indicator for displacement
- t^* is displacement year (t is the year)
- δ_j measures the difference between displaced & non-displaced workers in year j relative to displacement year t^* ,
- α_{tc} are year fixed effects interacted with cohort fixed effects
- x_{it} are controls (here mainly individual fixed effects)

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AKM/CHK Estimation

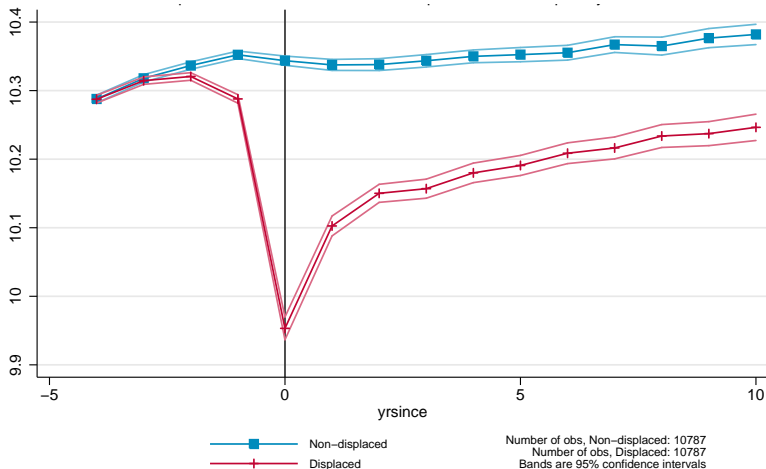
- Using full sample (displaced and non-displaced) we estimate for the connected set in the entire period:

$$\ln(w_{it}) = \psi_{J(i,t)} + \alpha_i + \theta_t + x'_{it}\beta + \epsilon_{it}, \quad (2)$$

- $\psi_{J(i,t)}$ represents a vector of establishment fixed effects for worker i 's establishment $J(i, t)$,
- α_i a vector of worker fixed effects
- θ_t and $X_{it}\beta$ are year effects and time varying observables (e.g., age)
- ϵ_{it} , captures purely transitory earnings fluctuations

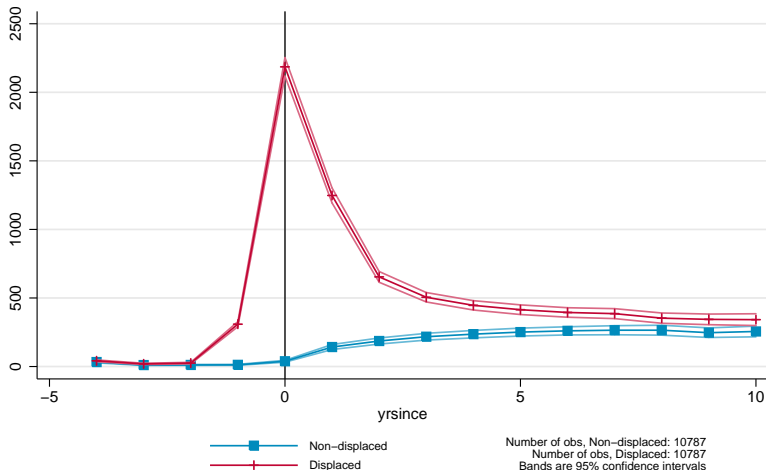
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Log-Earnings of Displaced Workers - 1979 - 2008



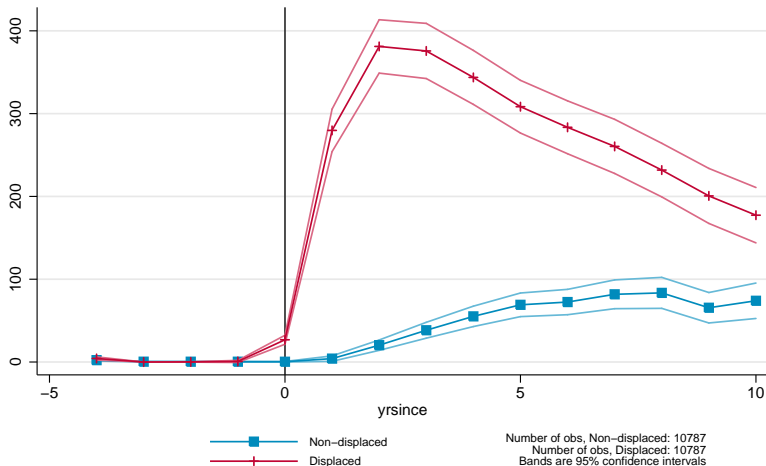
Short-term drop: about 35%, Long-term drop: about 10%

Unemployment Insurance Benefits- 1979 - 2008



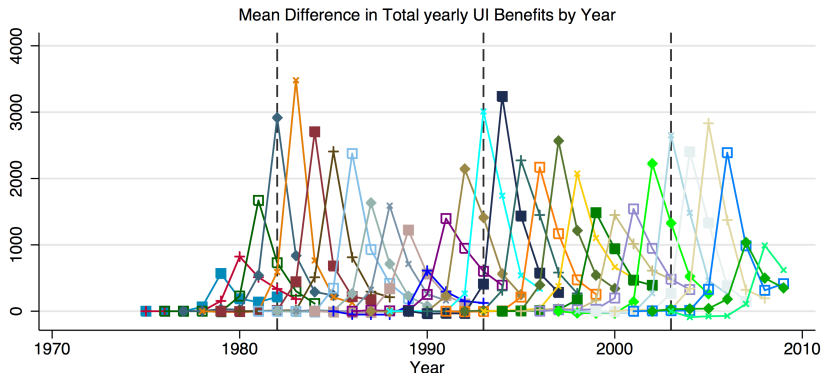
- UI benefits cover around 30 percent of earnings loss in the short term.

Unemployment Assistance Benefits - 1979 - 2008



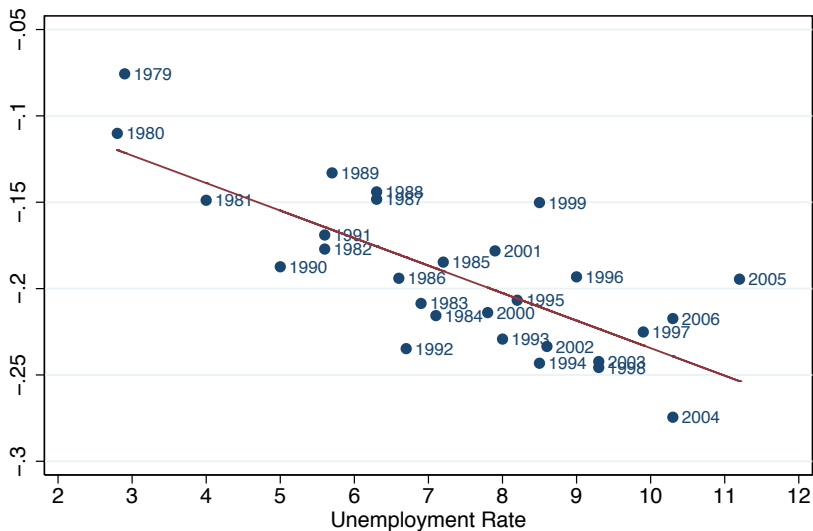
- UA benefits kick-in after around 1 year, covers around 5% of earnings loss.
- We don't have information on social assistance payments.

UI Benefit Receipt of Job Losers in first 3 years after Job Loss



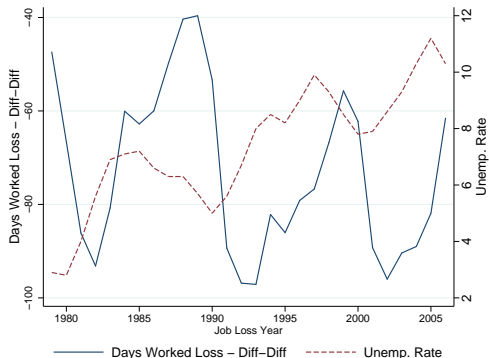
- UI benefits play an important role in dampening the earnings losses in recessions.

Income losses vs. UR



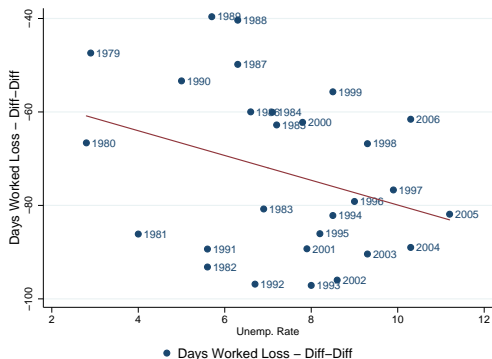
- Earnings losses are somewhat dampened by UI, but still quite cyclical

Losses in log days worked in first 3 years after Job Loss



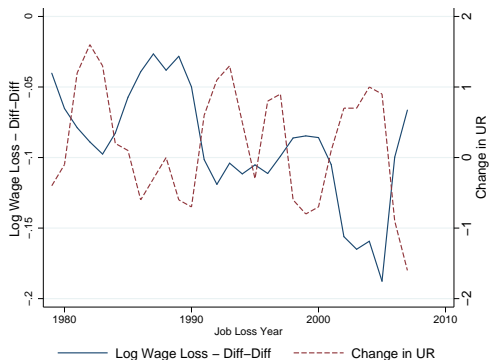
- Employment losses similarly very cyclical, especially over the short run.

Losses in days worked in first 3 years after Job Loss



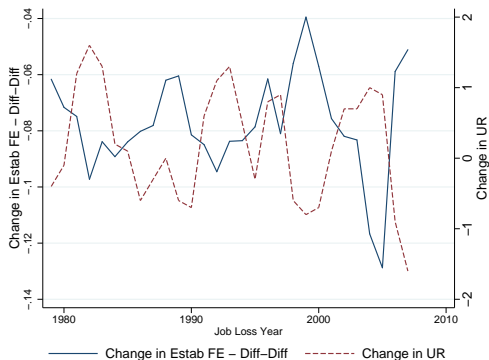
- Employment losses similarly very cyclical, especially over the short run.

Cyclicity in losses of daily wage 3 years after Job Loss



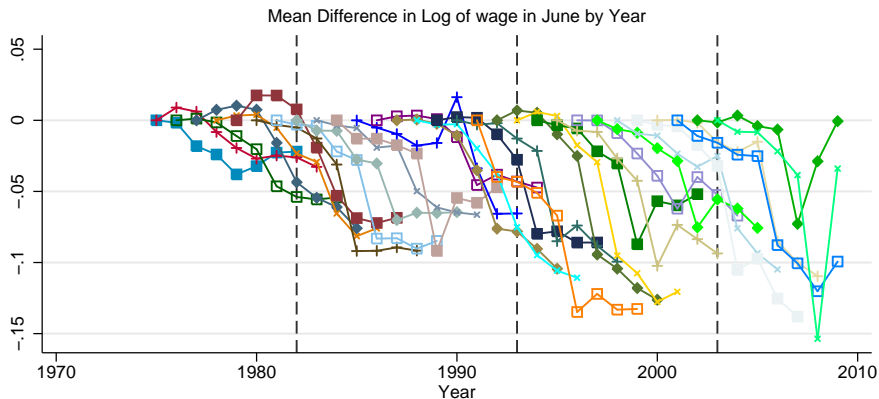
- For each point rise in the unemployment rate, wage losses rise by 1 percentage point (so a third of the cyclicity in earnings losses explained by changes in time worked)

Change of Establishment FE of Disp. Workers



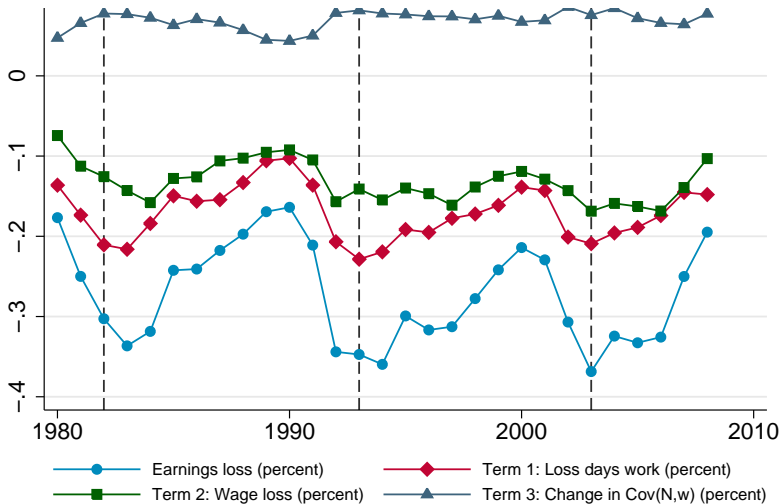
- Losses in establishment FE are also higher in recessions!

Log wage losses in first 3 years after Job Loss



- Less cyclical, especially early 80s.
- More related to level of UR

Decomposition of Earnings Losses into Wage Losses and Loss in Days Worked - 1979 - 2008



● Directly see cyclicity of various components → [Back](#)

Magnitudes of the Degree of Cyclicity for Various Outcomes - Change of UR

Panel B: Regression of Effect of Job Loss on Year over Year Change in National Unemployment Rate

| Outcome: | Estimated Effect of Change in UR | | Predicted Effect of Change in UR | | Difference going from -1% to +1% |
|----------------------------------|-------------------------------------|-----------|-------------------------------------|--------------------|--|
| | Coefficient | Std. Err. | $\Delta UR = -1\%$ | $\Delta UR = +1\%$ | |
| Annual Earnings (Loss in Euro) | -1917.5 | [488.2] | -4888.6 | -8723.6 | 3835 |
| Annual Earnings (Percent Loss) | -0.064 | [0.013] | -0.16 | -0.28 | 0.12 |
| Log Wage Loss | -0.029 | [0.0097] | -0.055 | -0.11 | 0.055 |
| Annual Days Worked Loss | -18.0 | [3.77] | -38.3 | -74.3 | 36 |
| Change in Estab FE | -0.015 | [0.0034] | -0.059 | -0.089 | 0.030 |
| Annual Income (Loss in Euro) | -1649.9 | [435.3] | -4226.2 | -7526 | 3299.8 |
| Annual UI Receipt (Loss in Euro) | 267.6 | [60.0] | 662.3 | 1197.5 | -535.2 |

● → Back

Magnitudes of the Degree of Cyclicity for Various Outcomes - Level of UR

Table 1: Regression of Effect of 1% Rise on Potential Unemployment Rate

| Outcome: | Estimated Effect of Unemployment Rate | | Predicted Effect of Unemployment Rate | | Difference going from 4% to 9% UR |
|----------------------------------|---------------------------------------|-----------|---------------------------------------|---------|-----------------------------------|
| | Coefficient | Std. Err. | UR=4% | UR=9% | |
| Annual Earnings (Loss in Euro) | -734.2 | [164.0] | -4833.5 | -8504.5 | 3671 |
| Annual Earnings (Percent Loss) | -0.019 | [0.0053] | -0.17 | -0.27 | 0.10 |
| Log Wage Loss | -0.015 | [0.0027] | -0.043 | -0.12 | 0.077 |
| Annual Days Worked Loss | -4.87 | [1.56] | -44.5 | -68.8 | 24.3 |
| Change in Estab FE | -0.0024 | [0.0015] | -0.070 | -0.082 | 0.012 |
| Annual Income (Loss in Euro) | -662.5 | [141.4] | -4076.3 | -7388.8 | 3312.5 |
| Annual UI Receipt (Loss in Euro) | 71.7 | [24.5] | 757.1 | 1115.6 | -358.5 |

Main Regression with Level of UR

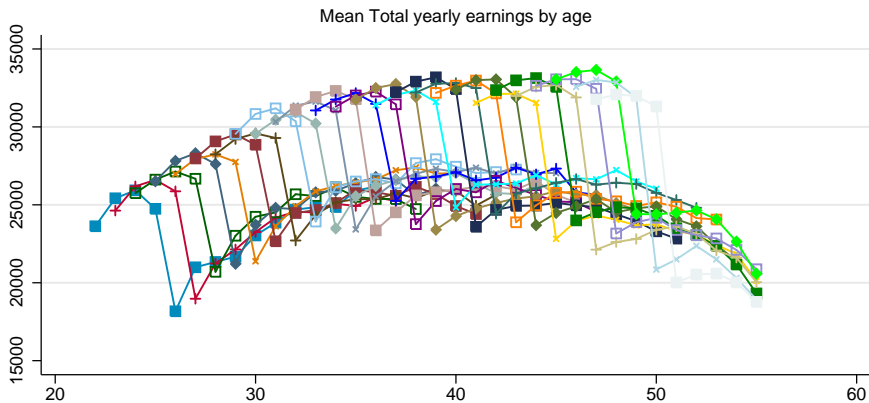
| | (1) log wage | (2) log wage | (3) log wage | (4) log wage | (5) log wage |
|---|-----------------------|--------------------|-----------------------|------------------------|------------------------|
| Panel B: Unemployment Rate - Level | | | | | |
| Unemployment rate | -0.0095 (0.0011)** | | -0.0061 (0.0010)** | -0.0052 (0.00088)** | -0.0040 (0.00089)** |
| Establishment effect | | -0.32 (0.012)** | -0.32 (0.012)** | | |
| Worker effect | | 0.18 (0.0030)** | 0.18 (0.0030)** | | |
| Change in Estab FE | | | | 0.79 (0.0054)** | 1 |
| mean-v | -0.087 | -0.087 | -0.087 | | -0.087 |
| N | 43512 | 43512 | 43512 | 43512 | 43512 |
| r2 | 0.014 | 0.10 | 0.10 | 0.34 | 0.016 |

Notes: Regressions control for year and year squared. The unemployment rate and the change in the unemployment rate is measured in percentage points and is the unemployment rate for West Germany. Column 5 regresses the log wage loss on the unemployment rate (change in UR) controlling for the change in the establishment effect, where the coefficient on the establishment effect is forced to be equal to 1.

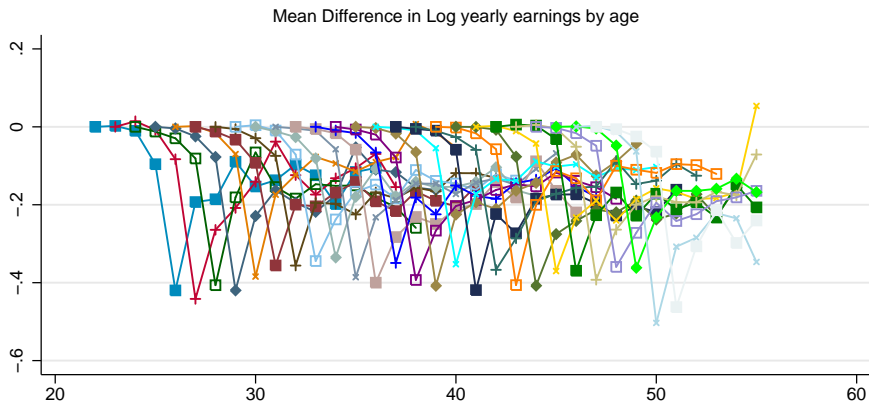
The Costs of Job Loss in Recessions

| | | Estimated Effect of Unemployment Rate | | Predicted Effect of Unemployment Rate | | Difference Going from 4% to 9% UR |
|--|---------------------------|--|-----------|--|--------|--|
| | | Coefficient | Std. Err. | UR=4% | UR=9% | |
| Annual Earnings (Including Zeros) | Earnings Loss (1000 Euro) | -0.61 | 0.10 | -4.38 | -7.41 | -3.03 |
| | Percent Loss | -0.016 | 0.003 | -0.156 | -0.236 | -0.080 |
| Annual Income (Including UI) | Earnings Loss (1000 Euro) | -0.59 | 0.10 | -3.90 | -6.88 | -2.97 |
| | Percent Loss | -0.016 | 0.003 | -0.139 | -0.219 | -0.080 |
| Log Daily Wage | Percent Loss | -0.011 | 0.001 | -0.044 | -0.101 | -0.057 |
| Log Daily Wage Controlling for Job Characteristics | Percent Loss | -0.002 | 0.002 | -0.035 | -0.043 | -0.008 |

Earnings of Displaced Workers by Age of Job Loss

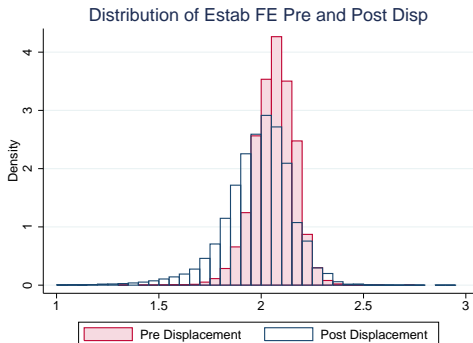


Log Earnings Losses by Age of Job Loss



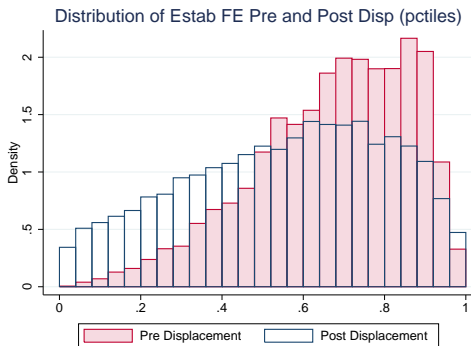
- This looks very similar to Figure 10 in the paper by Philip Jung and Moritz Kuhn presented tomorrow!

Distribution of Estab FE for Separators Before/After Job Loss



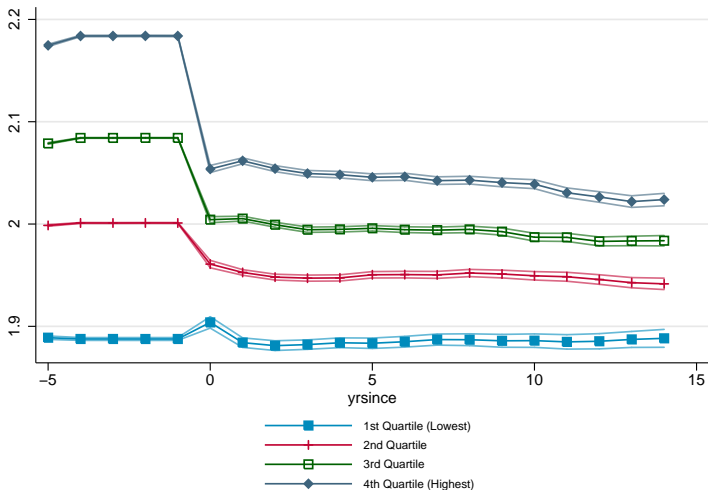
- FFE distribution shifts to the left after job loss
- However, there is a substantial amount of overlap in FFE distributions before/after job loss → Back

Distribution of Estab FE for Separators Before/After Job Loss in Percentiles



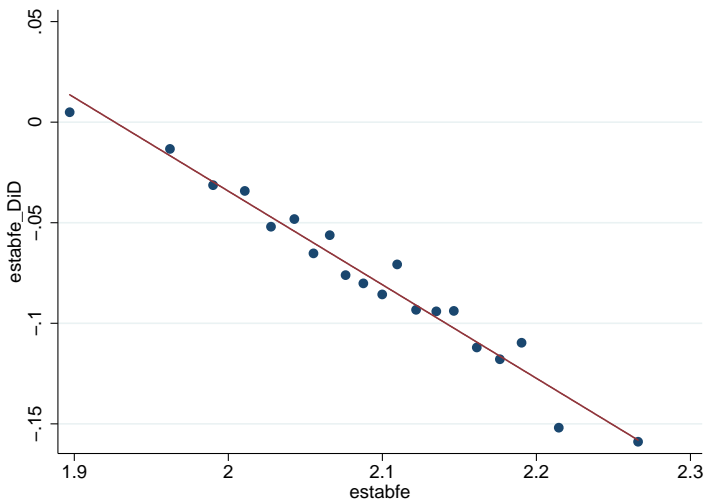
- FFE distribution shifts to the left after job loss
- However, there is a substantial amount of overlap in FFE distributions before/after job loss → Back

Evolution of Estab FE for Separators by Estab FE Quartiles



→ Back

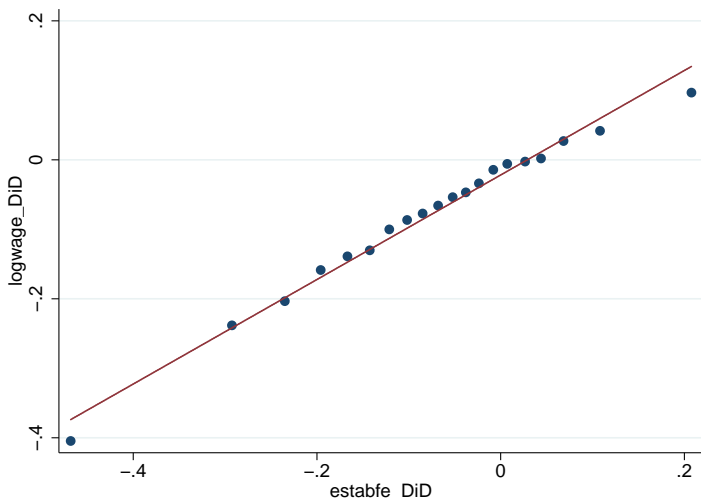
Loss of Estab FE for Separators by Pre-Disp. Estab FE



● Slope about 0.5, i.e., there is not a one-to-one loss

→ Back

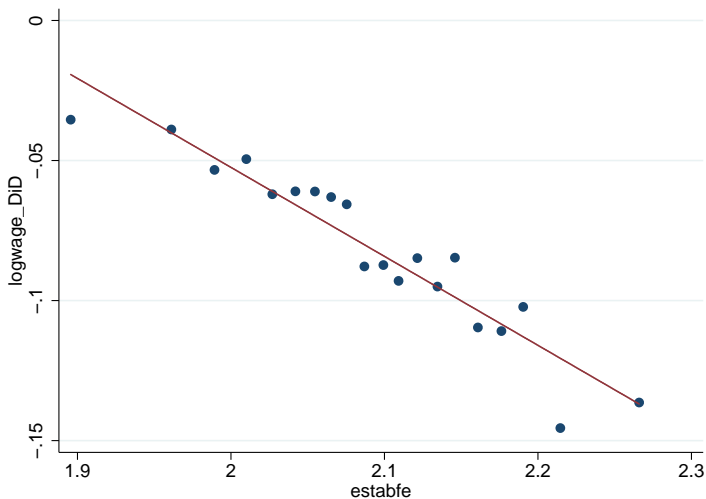
Loss of Log-Wage for Separators by Loss of Estab FE



● Slope around 0.8, consistent with coefficient in the table

● → Back

Loss of Log Wages for Separators by Pre-Disp. Estab FE



- Slope around 0.4, consistent with coefficient in the table

→ Back

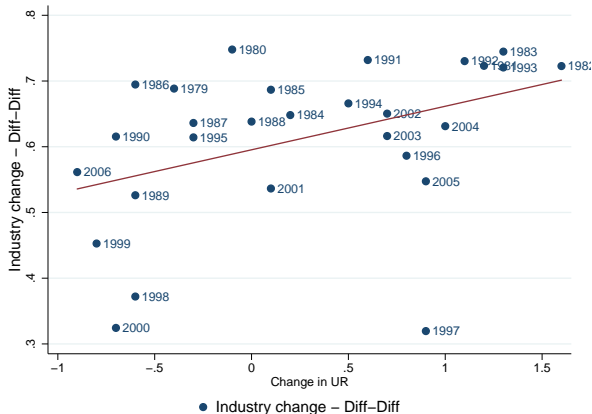
Control for add. Post-Job Loss Career Variables

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|-----------------------|----------------------|----------------------|----------------------|-----------------------|----------------------|----------------------|----------------------|-----------------------|
| | log wage | log wage | log wage | log wage | log wage | log wage | log wage | log wage |
| Change in UR t-1 to t | -0.018 (0.0015)** | -0.018 (0.0015)** | -0.012 (0.0013)** | -0.0095 (0.0014)** | -0.018 (0.0015)** | -0.018 (0.0015)** | -0.012 (0.0013)** | -0.0095 (0.0014)** |
| Establishment effect | | -0.34 (0.012)** | | | | -0.33 (0.012)** | | |
| Change in Estab FE | | | 0.69 (0.0060)** | | | | 0.70 (0.0060)** | |
| Worker FE (Std) | 0.14 (0.0042)** | 0.12 (0.0045)** | 0.075 (0.0039)** | 0.056 (0.0040)** | | | | |
| Nonemp. Dur. (Years) | -0.11 (0.0024)** | -0.11 (0.0025)** | -0.058 (0.0022)** | -0.037 (0.0023)** | -0.12 (0.0023)** | -0.11 (0.0025)** | -0.063 (0.0022)** | -0.042 (0.0022)** |
| Occ. change | | -0.033 (0.0024)** | -0.016 (0.0020)** | -0.0086 (0.0021)** | | -0.049 (0.0024)** | -0.025 (0.0020)** | -0.014 (0.0021)** |
| Ind. change | | -0.045 (0.0025)** | -0.024 (0.0022)** | -0.015 (0.0022)** | | -0.049 (0.0025)** | -0.025 (0.0022)** | -0.015 (0.0023)** |
| edyrs== 13.0000 | | | | | 0.032 (0.0053)** | 0.030 (0.0056)** | 0.014 (0.0048)** | 0.0084 (0.0050) |
| edyrs== 16.0000 | | | | | 0.066 (0.0050)** | 0.064 (0.0053)** | 0.023 (0.0046)** | 0.0087 (0.0047) |
| edyrs== 18.0000 | | | | | 0.053 (0.0057)** | 0.053 (0.0060)** | -0.0043 (0.0052) | -0.024 (0.0053)** |
| mean_v | -0.088 | -0.088 | -0.088 | -0.088 | -0.088 | -0.088 | -0.088 | -0.088 |
| N | 43136 | 36555 | 36555 | 36555 | 43329 | 36734 | 36734 | 36734 |
| r2 | 0.14 | 0.17 | 0.38 | 0.057 | 0.12 | 0.16 | 0.37 | 0.052 |

Regressions Control for year and year squared as well as tenure dummies and experience polynomial
UR and Change UR are measured in percentage points

- 1 Nonemployment duration prior to reemployment plays role (Schmieder, von Wachter, Bender 2017)
- 2 Longer nonemployment duration correlated with lower estab. FE
- 3 Cond. on estab. FE, changes in industry & occupation matter little → Back

Cyclicalty of Incidence of Industry Switching



- Industry switching is also more common in recessions! → Back

Results for Job Losers Staying in Same Industry

| | (1) | (2) | (3) | (4) | (5) |
|---|-----------------------|--------------------|-----------------------|-----------------------|-----------------------|
| | log wage | log wage | log wage | log wage | log wage |
| Panel A: Change in Unemployment Rate | | | | | |
| Change in UR t-1 to t | -0.0093 (0.0022)** | | -0.0099 (0.0021)** | -0.0073 (0.0019)** | -0.0064 (0.0020)** |
| Establishment effect | | -0.11 (0.017)** | -0.11 (0.017)** | | |
| Worker effect | | 0.12 (0.0046)** | 0.12 (0.0046)** | | |
| Change in Estab FE | | | | 0.69 (0.014)** | 1 |
| mean_v | -0.037 | -0.037 | -0.037 | | -0.037 |
| N | 11533 | 11533 | 11533 | 11533 | 11533 |
| r2 | 0.0054 | 0.064 | 0.065 | 0.19 | 0.014 |

Notes: Regressions control for year and year squared. The unemployment rate and the change in the unemployment rate is measured in percentage points and is the unemployment rate for West Germany. The sample is restricted to individual who do not switch 3 digit industries after job loss. Column 6 regresses the log wage loss on the unemployment rate (change in UR) controlling for the change in the establishment effect, where the coefficient on the establishment effect is forced to be equal to 1.