Empirische Wirtschaftssoziologie

FRIEDRICH-ALEXANDER UNIVERSITÄT ERLANGEN-NÜRNBERG
SCHOOL OF BUSINESS, ECONOMICS AND SOCIETY

Subjective Well-Being Scarring Through Unemployment:

New Methods, New Results?

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Motivation

- Unemployment (UE) has severe negative individual consequences
- These include subjective well-being (SWB) „scarring“ – understood as negative effects on SWB even after reemployment
- However, recent evidence using more rigorous methods raises doubts on the existence of SWB scarring (Rauf 2020)
- This paper uses SOEP data to estimate SWB scarring through unemployment, accounting for methodological issues in the literature

Theoretical background & previous results

Why unemployment leaves scars?

Scarring is likely to occur with regard to SWB mainly due to two factors

a) unemployment is an incisive life event that brings about a variety of negative consequences which might be at work beyond the actual episode of unemployment

b) episodes of unemployment increase perceived job insecurity and the likelihood of future episodes of unemployment

a) Unemployment as an incisive life event

Unemployment has (long-lasting) effects (Brand 2015; Jahoda 1981)

- Manifest functions: loss of income
- Latent functions: structuring time, social contacts,…

→ Losing these functions decrease health & SWB (Cygan-Rehm et al. 2017, Krug & Eberl 2018; Zechmann & Paul 2019)

Unemployment also leaves scars on SWB in the long-run (e.g. Clark et al. 2001, Lucas et al. 2004), potentially due to…

- Lower job quality & pay (Gangl 2006; Dieckhoff 2011)
- Stigmatization (Krug et al. 2019)
- Lower levels of mental health (Strandh et al. 2014)
- …

b) Scaring about the future & future events

"Past unemployment leaves a 'scar' because it 'scares' the individual about the future" (Knabe and Rätzel 2011)

- Experiencing unemployment leads to (perceived) uncertainty about the future
- Uncertainty moderates potential adaption (Graham 2011)

Unemployment is a strong predictor of future unemployment (Arulampalam et al. 2001)

- Unemployment period could be perceived as a signal of low motivation (Van Belle et al. 2018) and thus lead to future unemployment
- Future unemployment could again affect SWB and thus lead to scarring (Luhmann 2009)

Previous findings

- Large literature using German data (i.e. SOEP); dv: life satisfaction
  - Clark et al. (2001): even when employed again, previously unemployed individuals show lower levels of life satisfaction
  - Lucas et al. (2004): unemployment decreases well-being constantly, even three years after entering re-employment again
  - Clark et al. (2008): no adaptation within unemployment, individuals report consistently lower levels of well-being
- Young (2012, PSID data) & Flint et al. (2013, BHPS data): transition to unemployment lowers well-being; re-employment does not increase it in the same magnitude
- Strandh et al. (2014) and Daly and Delaney (2013) show scars on psychological health

Consistent finding (despite using different methods, data and scales): *Unemployment leaves scars even after re-employment*

Rauf (2020, *Social Forces*)

- Claim: previous studies were methodologically flawed
  (1) not accounting for time-constant unobserved heterogeneity
  (2) systematic underreporting of short unemployment spells (that happen between survey waves)→ selective sample of transitions
  (3) confounding effects of aging with that of unemployment

- Data: PSID (USA) with proxy measure of well-being:
  log(K-6) score (scale on mental distress)
  – Previously used e.g. by Young (2012) who finds scarring
- Method: time distributed fixed effects group-specific slopes (TD-FEGS)
- Key findings
  i. No significant impact of unemployment on well-being
  ii. No scarring effects

Roadmap for our analyses

- Unemployment scarring: does it still hold up on the SOEP-data?

- Channels of unemployment scarring
  - ‘Scaring‘ about the future: scarring should also occur when individuals are re-employed
    - ➢ Investigate scarring with a censored sample which individuals leave when they are not employed
  - Repeated events of unemployment: unemployment determines future unemployment and unstable work arrangements
    - ➢ Investigate scarring with a sample of repeatedly unemployed individuals

- How to reconcile our findings with Rauf (2020)?

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Data & Methods

Database

- German Socio-Economic Panel (SOEP) v33; 1984-2016
- Prime working age: 25-55
- Identify individuals with an **employment-unemployment-employment (EUE)** transition
  - 5,088 individuals with 50,072 panel-observations
- Condition: employed in first panel wave observed
- Advantage of the data: also identify unemployment between survey waves through calendar data → allows us to identify short unemployment spells

Control Group & Subsamples

- For empirical estimation: keep permanently employed (through the survey years) individuals as a control group (20,934 individuals with 162,313 panel-observations)
- Subsamples to investigate channels:
  - *Censored sample*: drop individuals after the EUE-transition if they get unemployed again
  - *Unemployed again sample*: individuals that experience another period of unemployment after the EUE-transition
- Control variables: age categories, survey year, East Germany (0/1)

Analytical strategy

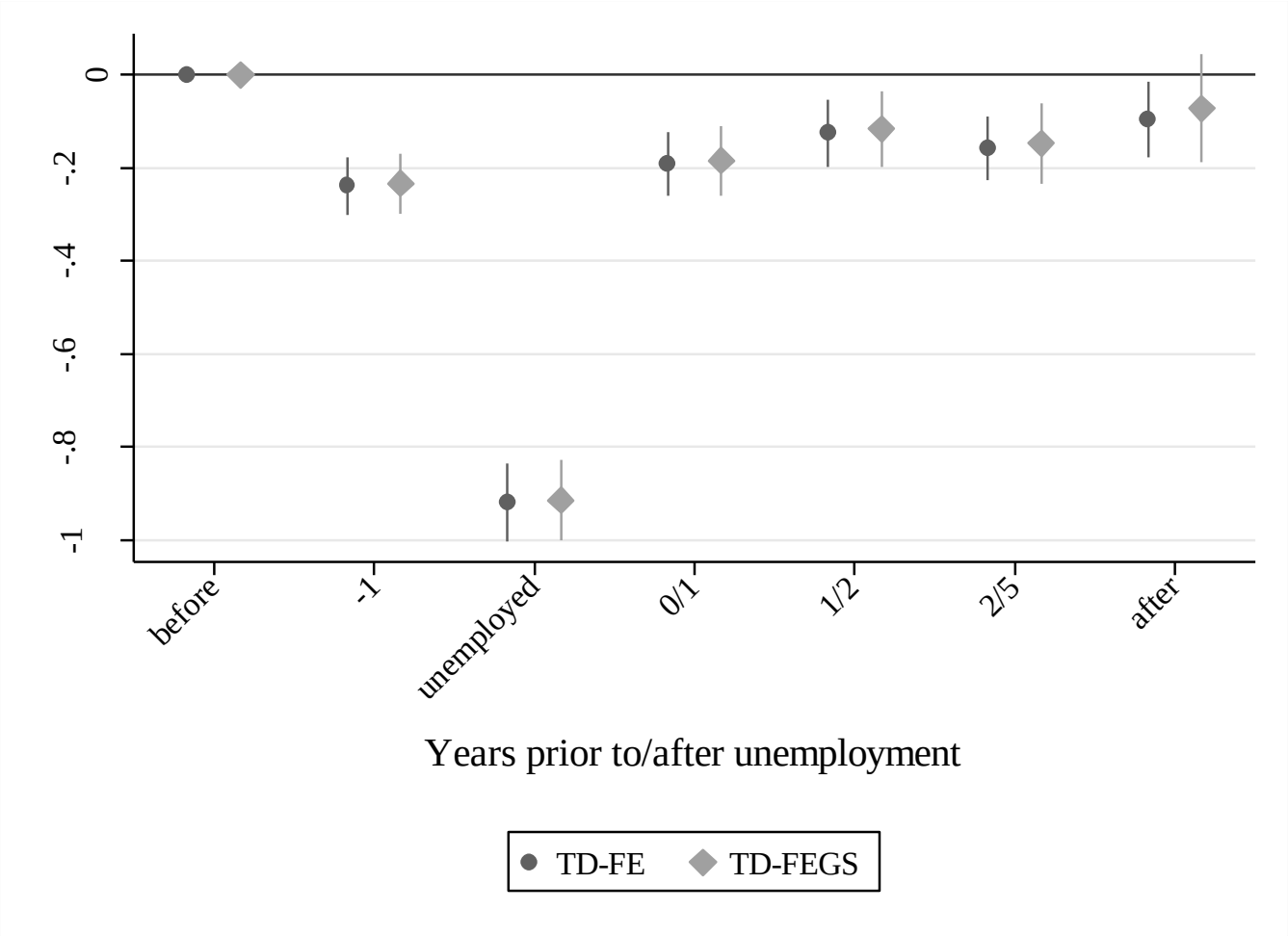
We estimate a time distributed fixed effects group-specific slopes (TD-FEGS) model:

$$lifesat_{it} = \alpha_i + \gamma \mathrm{UE}'_{\mathrm{it}} + \delta\, AGEGROUP'_{it} + \lambda\, AGEGROUP'_{it} \cdot PERMEMPLOYED_i + \beta X'_{it} + \epsilon_{it}$$

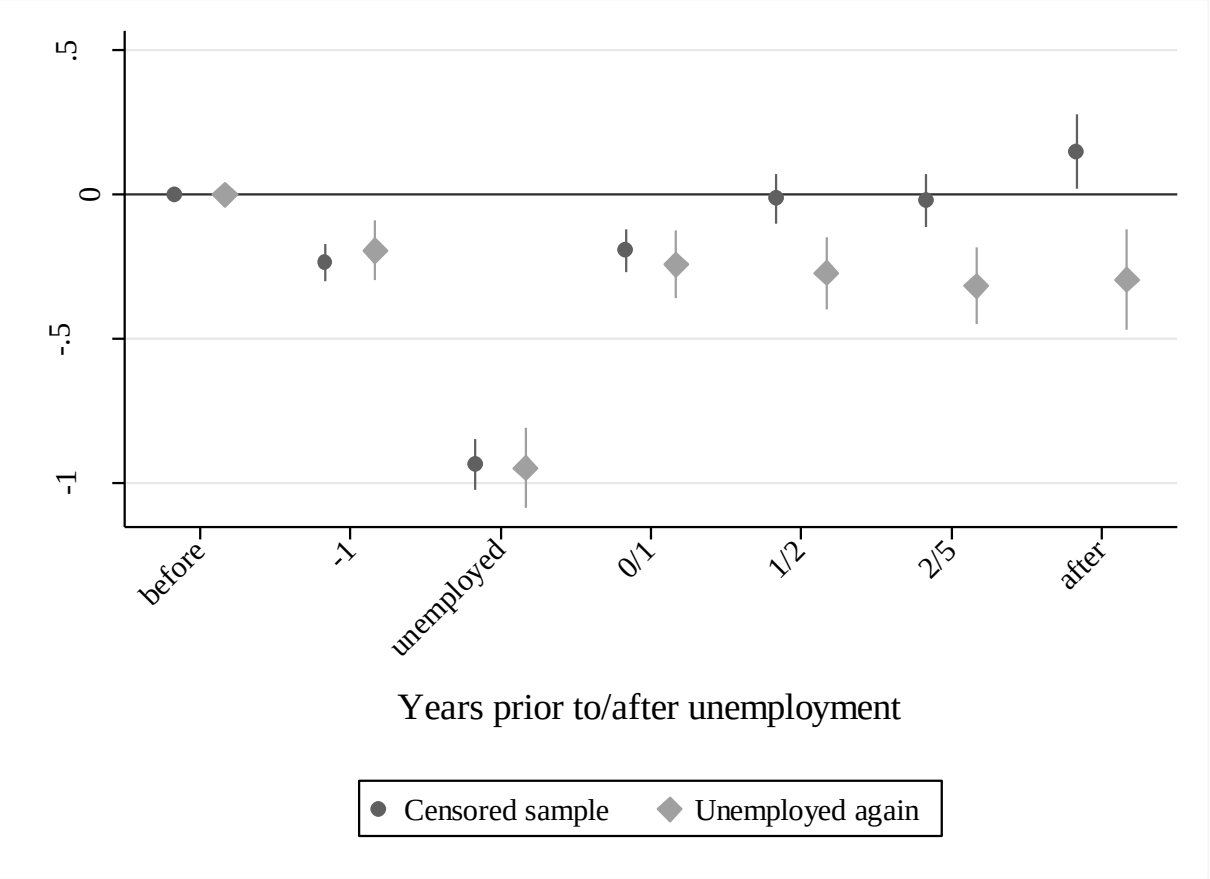
- $lifesat_{it}$: Life satisfaction of individual *i* in time *t*
- α_i*: individual-specific fixed effect*
- UE_{it}: time around EUE-transition (dummies) of individual *i* in time *t*
- $AGEGROUP_{it}$*: age (in 5-year-categories)* of individual *i* in time *t*
- $PERMEMPLOYED_i$*:* dummy indicating whether *i* is permanently employed
- X_{it}: set of time-varying covariates:
  - survey year dummies ## East Germany (0/1),

Results

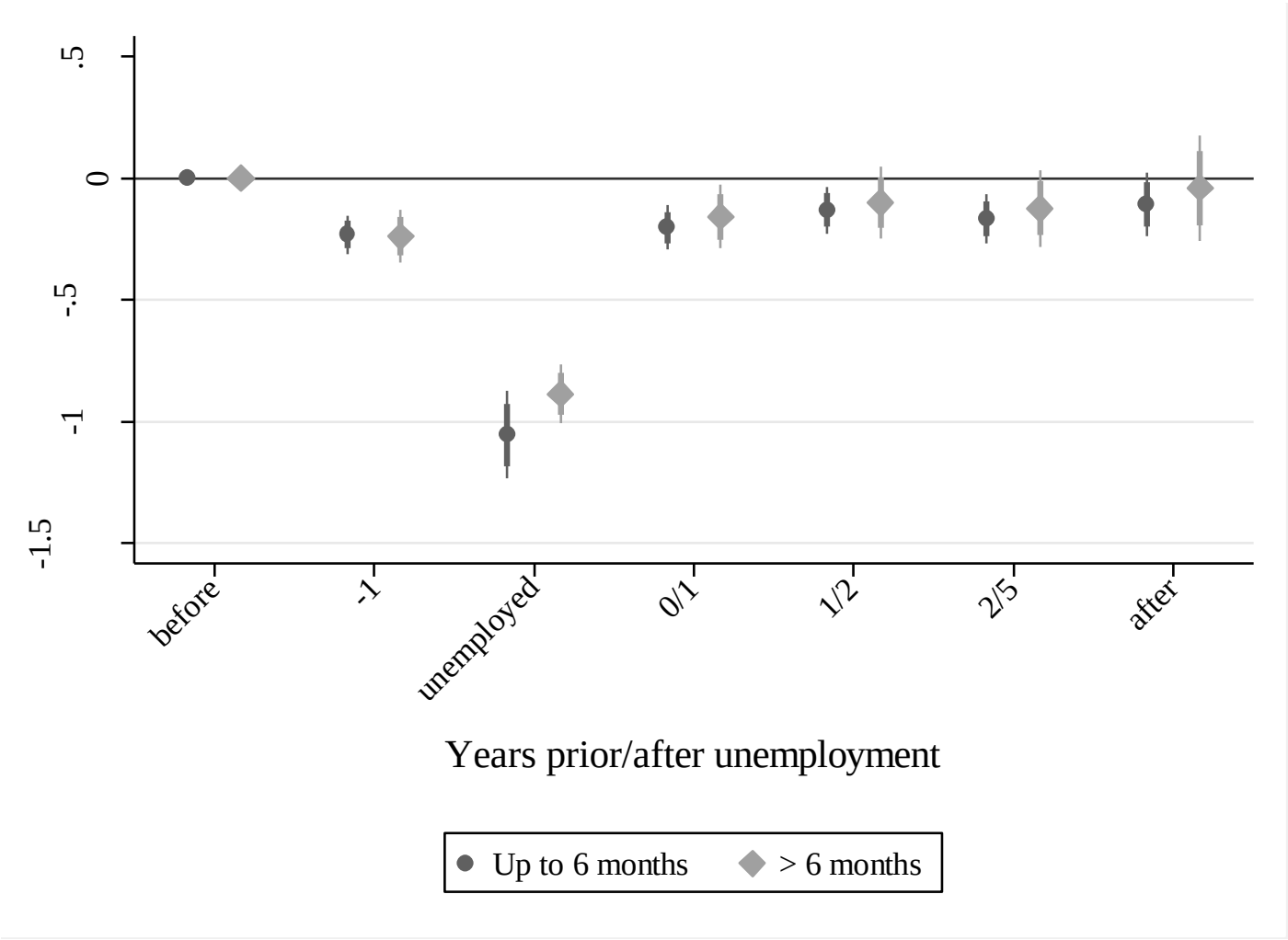
Main Results, Full Sample



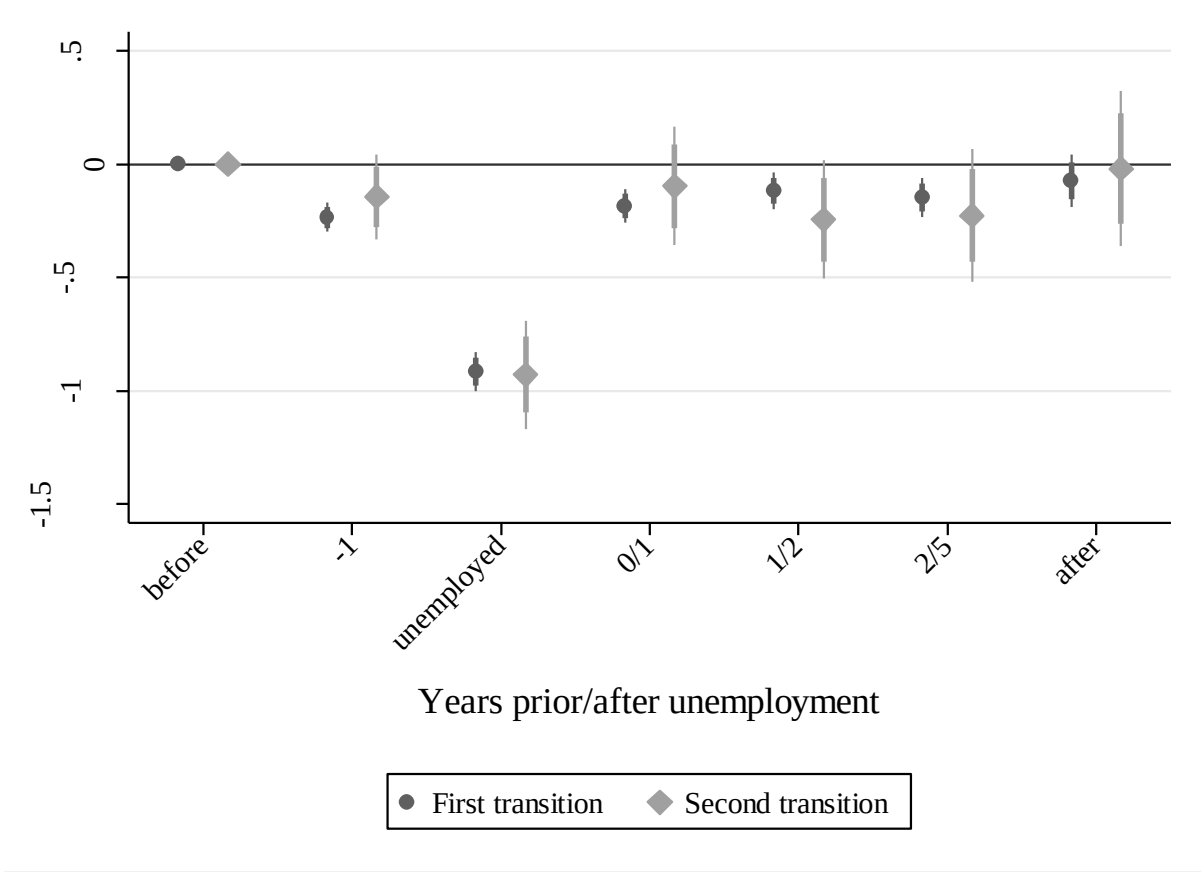
Censored & Unemployed-Again Samples



Unemployment duration



Repeated Events



Summary

- Overall, we find – even with the TD-FEGS method – small SWB scarring in Germany 2-5 years after leaving unemployment, but not after more than 5 years. Surprisingly, the effects do not differ by unemployment duration
- The effects are driven by individuals who are unemployed repeatedly. Thereby, repeated spells of unemployment show the same patterns as the original transition
- We find evidence for “long-term” SWB scarring only for those becoming unemployed again
- For those being permanently employed after unemployment the negative long-term effects on SWB not only vanish, but even become positive (why?)

Comparison with Rauf (2020)

In contrast to Rauf, we find evidence for SWB scaring. The three methodological issues which she raised do not explain why the previous points to the existence of SWB scarring, but she does not find such effects.

Different reasons might lead to these different results:

(1) Institutional & cultural differences between the US & Germany
- unemployment benefits & labor market context
- culture of hiring and firing in the US

(2) Methodological differences
- Outcome measure in PSID and SOEP
- Model specification (e.g., controlling for subjective health)

(3) Issues of statistical power related to TD-FEGS

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Many thanks for your attention & feedback!

Working paper: https://osf.io/preprints/socarxiv/t57cd/

Sample Descriptives

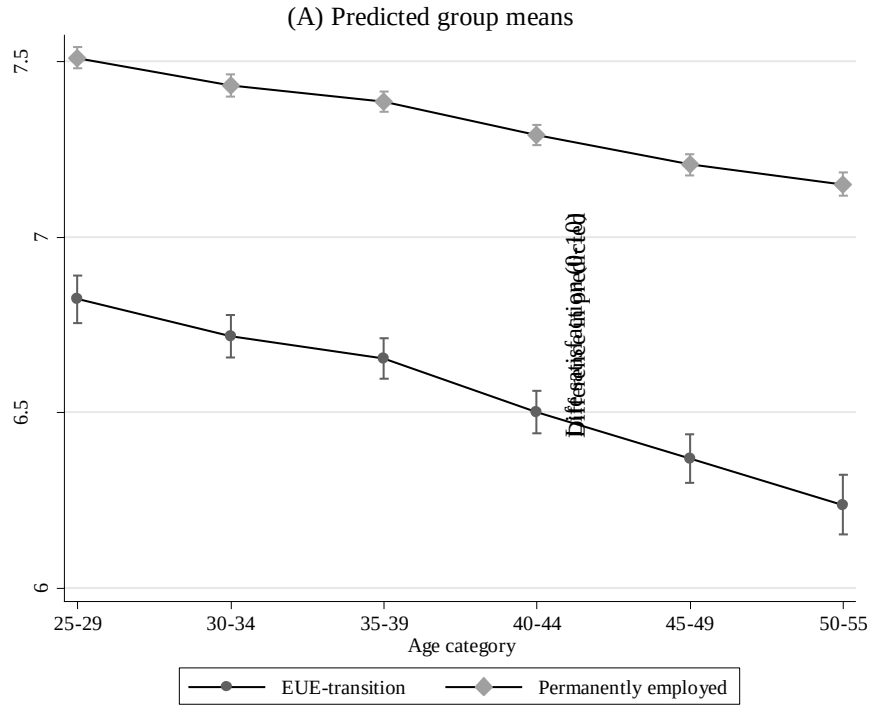
	(1) Unemployed		(2) Unemployed – censored		(3) Unemployed again		(4) Permanently employed	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Life satisfaction	6.57	1.88	6.70	1.84	6.32	1.93	7.32	1.60
Age (years)	39.83	8.39	38.67	8.40	40.04	8.25	41.07	8.53
Female (0/1)	0.47	0.50	0.48	0.50	0.46	0.50	0.49	0.50
East Germany (0/1)	0.28	0.45	0.25	0.44	0.33	0.47	0.14	0.35
Years of education	11.89	2.57	11.94	2.59	11.68	2.43	12.53	2.83
Married (0/1)	0.58	0.49	0.58	0.49	0.56	0.50	0.68	0.47
Child under 16 in household (0/1)	0.49	0.50	0.50	0.50	0.49	0.50	0.50	0.50
Unemployment experience (years)	1.47	2.39	0.91	1.75	2.09	2.82	0.02	0.22
Currently unemployed	0.15	0.36	0.12	0.32	0.19	0.40	-	-
Observations	50072		37525		23890		162313	

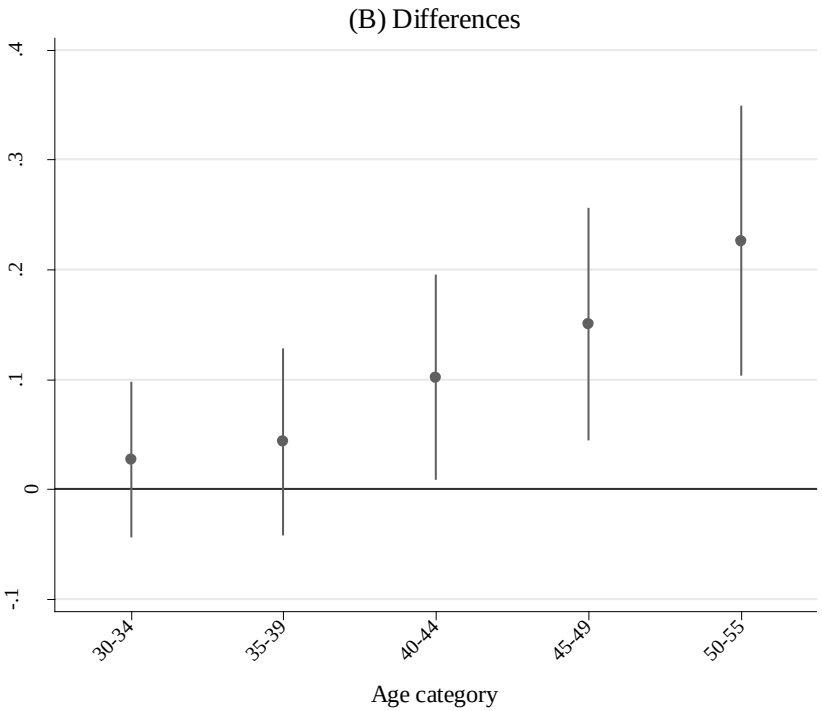
Number of Cases

	(1)	(2)	(3)	(4)	(5)	(6)
	Full Sample		Censored*		Unemployed Again	
	N_i	N_{it}	N_i	N_{it}	N_i	N_{it}
Before 1 year before unemployment	2297	11366	2297	11366	1040	4514
Within 1 year before unemployment	4965	5792	4965	5792	1745	1922
Unemployed	2508	4566	2429	4105	719	1657
Within 1 year after unemployment	3851	3851	3658	3658	1701	1701
1-2 years after unemployment	3217	3217	2200	2200	1644	1644
2-5 years after unemployment	2843	9428	1754	5361	1505	5167
5+ years after unemployment	1803	11852	879	5043	1054	7285

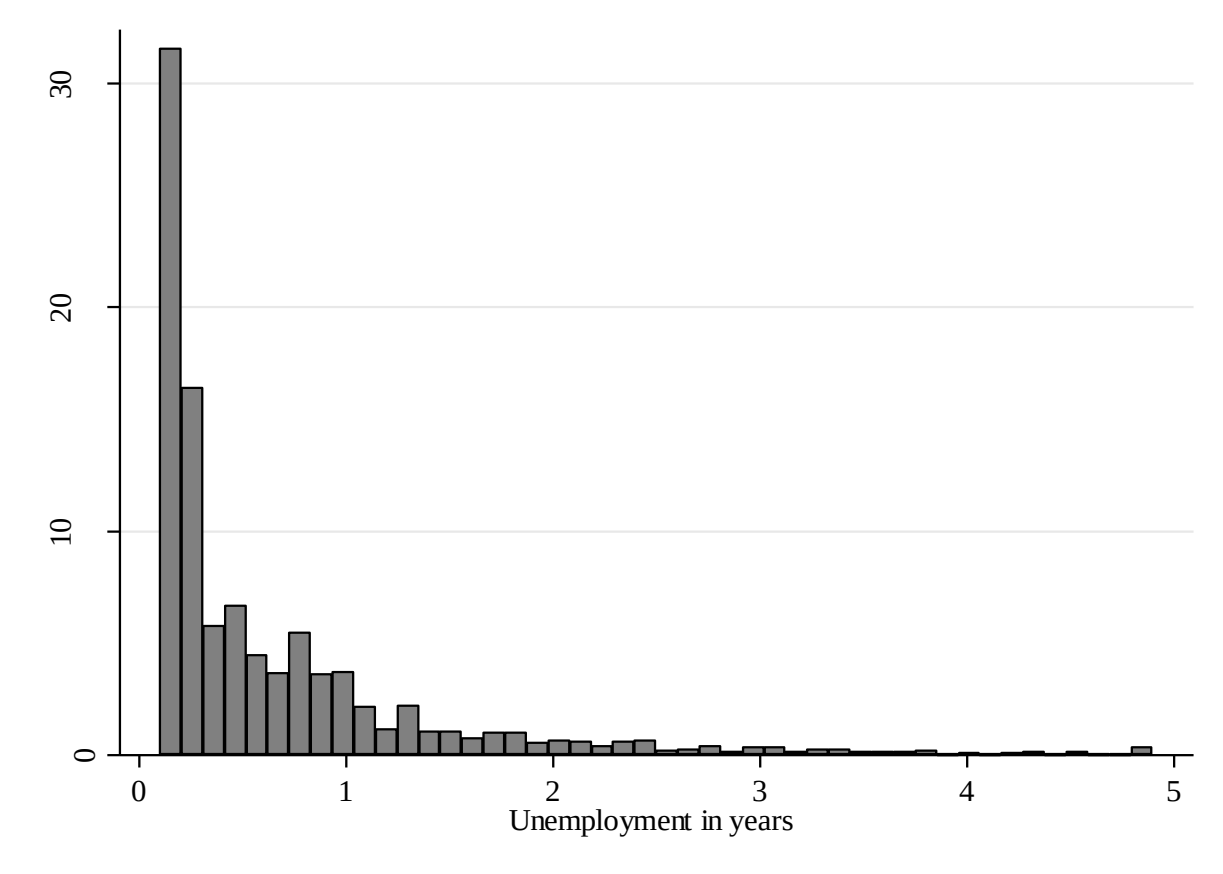
Notes: N_i refers to the number of individuals; N_{it} refers to the number of observations.
* The censored sample refers to a sample consisting of individuals who are dropped at the point at which they lose their job again after an EUE transition, if this occurs.

Need For TD-FEGS?

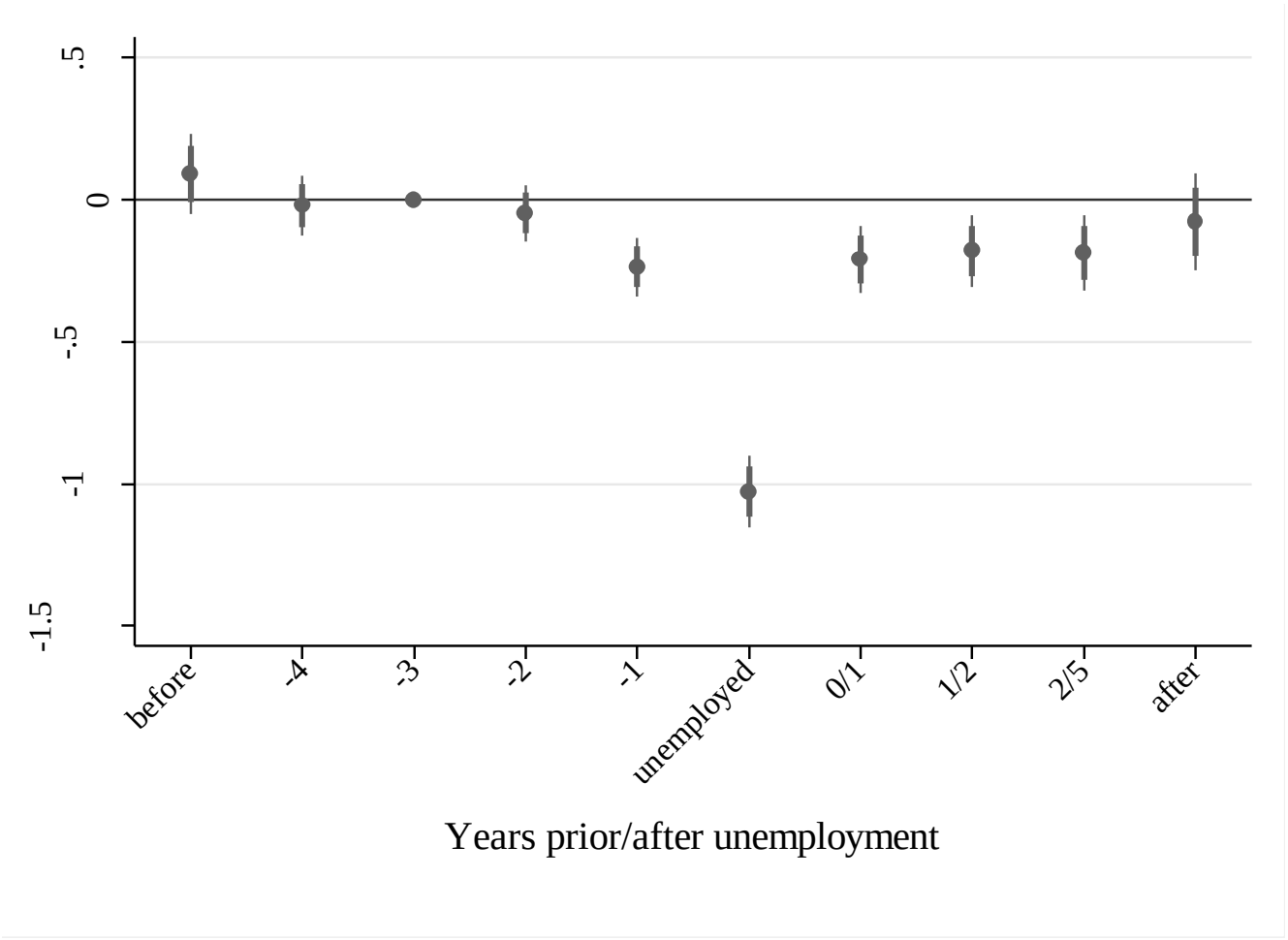




Unemployment duration (0-5 years; 98%)



There is no pre-treatment trend



Tables for figures

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Fig. 2		**Fig. 3**		**Fig. 4**	
	TD-FE (1984-1998)	TD-FEGS (1984-1998)	TD-FEGS (1984-2016)	Male	Female	Censored	Unemployed again
Time to unemployment							
Before	Ref	Ref	Ref	Ref	Ref	Ref	Ref
-1	-0.281*** (0.054)	-0.258*** (0.056)	-0.234*** (0.033)	-0.214*** (0.045)	-0.261*** (0.049)	-0.235*** (0.032)	-0.194*** (0.053)
Unemployed	-1.086*** (0.077)	-1.059*** (0.079)	-0.914*** (0.045)	-0.995*** (0.061)	-0.835*** (0.065)	-0.936*** (0.045)	-0.948*** (0.071)
0/1	-0.214*** (0.062)	-0.180** (0.067)	-0.184*** (0.038)	-0.191*** (0.051)	-0.186** (0.056)	-0.194*** (0.039)	-0.242*** (0.060)
1/2	-0.177** (0.068)	-0.137 (0.076)	-0.116** (0.042)	-0.157** (0.057)	-0.079 (0.061)	-0.014 (0.044)	-0.272*** (0.064)
2/5	-0.163* (0.070)	-0.109 (0.085)	-0.147*** (0.044)	-0.153* (0.061)	-0.145* (0.063)	-0.019 (0.047)	-0.316*** (0.068)
After	-0.144 (0.096)	-0.057 (0.124)	-0.072 (0.059)	-0.017 (0.080)	-0.128 (0.087)	0.149* (0.066)	-0.295*** (0.088)
Number of observations (N_{it})	70873	70873	212385	109692	102693	199838	186203
Number of individuals (N_i)	9868	9868	26022	13456	12571	26021	22726

Standard errors in parentheses. TD-FEGS estimations.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Heterogeneous Scarring Effects

	(1) First transition	(2) Second transition (conditional on first)	(3) Short unemployment spell (up to 6 months)	(4) Long unemployment spell (more than 6 months)
Time to unemployment				
Before	Ref	Ref	Ref	Ref
-1	-0.234***	-0.143	-0.231***	-0.238***
	(0.033)	(0.096)	(0.041)	(0.056)
Unemployed	-0.914***	-0.929***	-1.055***	-0.886***
	(0.045)	(0.121)	(0.092)	(0.062)
0/1	-0.184***	-0.096	-0.202***	-0.157*
	(0.038)	(0.134)	(0.046)	(0.067)
1/2	-0.116**	-0.244	-0.130**	-0.099
	(0.042)	(0.133)	(0.049)	(0.075)
2/5	-0.147***	-0.225	-0.166**	-0.124
	(0.044)	(0.148)	(0.051)	(0.080)
After	-0.072	-0.018	-0.108	-0.038
	(0.059)	(0.176)	(0.066)	(0.111)
Number of observations (N_{it})	212385	171656	190533	184165
Number of individuals (N_i)	26022	21895	23294	23662

Standard errors in parentheses. TD-FEGS estimations.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

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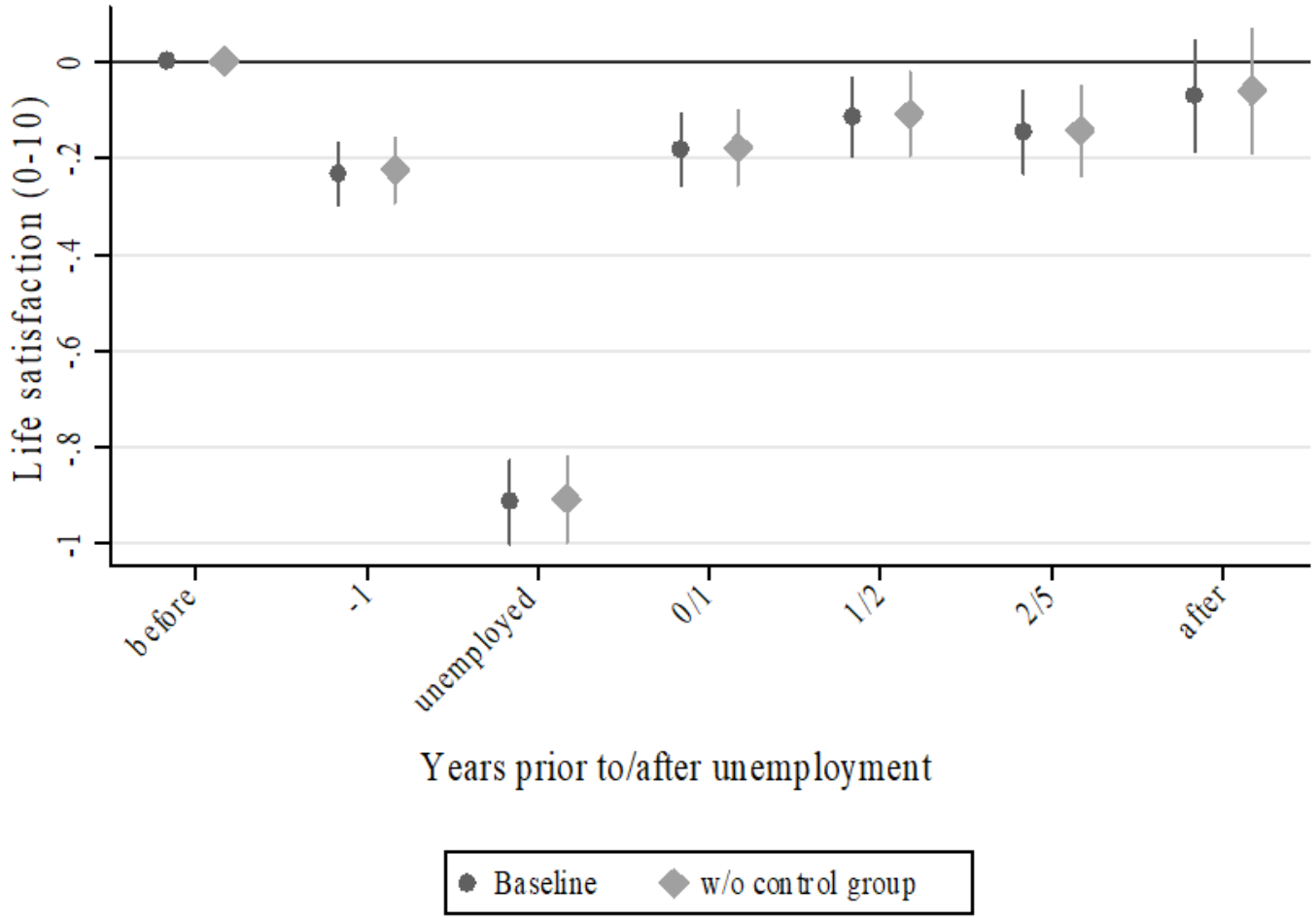
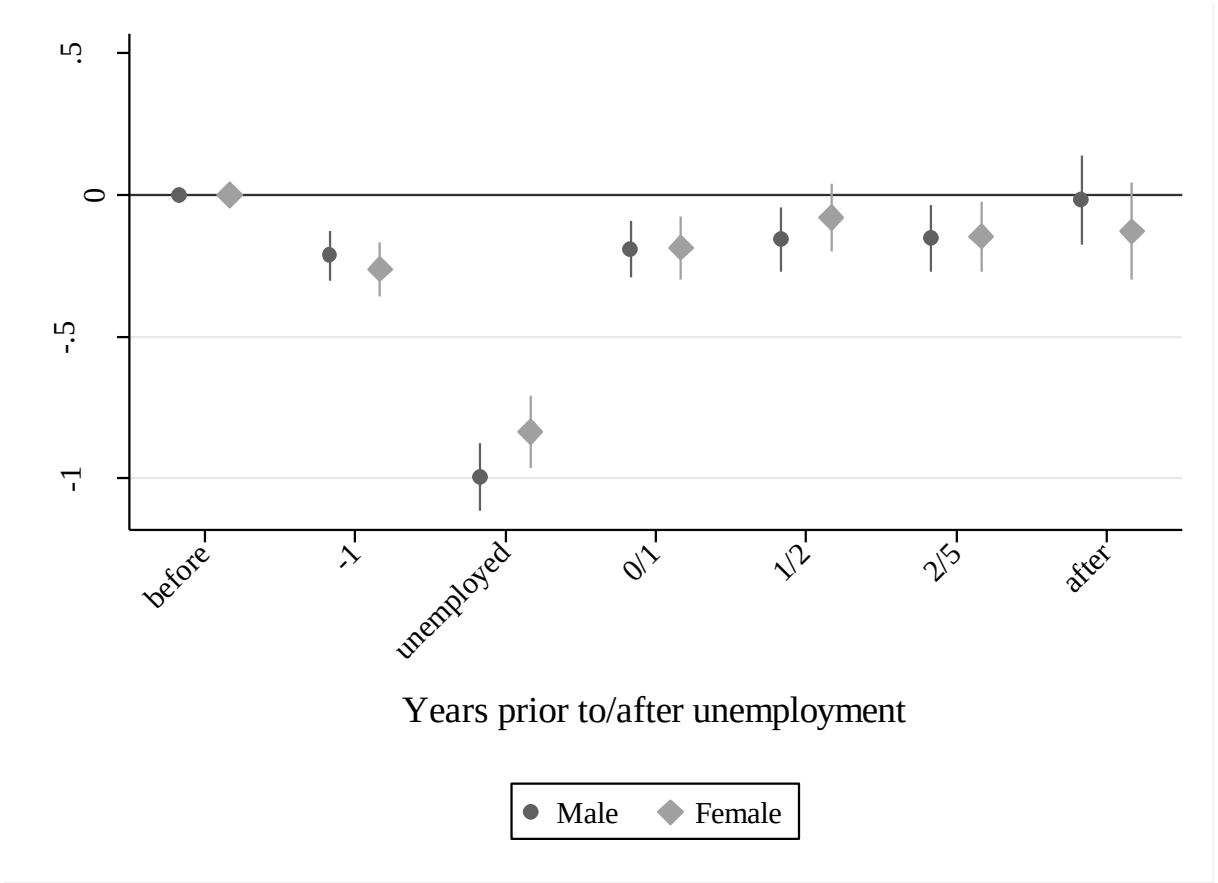
With and without Control Group



Replicating classical findings:

Effects by gender



Different age specifications

	(1) Age squared	(2) Age dummies (years)
Time to unemployment		
Before	Ref	Ref
-1	-0.234***	-0.232***
	(0.034)	(0.034)
Unemployed	-0.918***	-0.912***
	(0.046)	(0.046)
0/1	-0.188***	-0.180***
	(0.040)	(0.040)
½	-0.121**	-0.111*
	(0.044)	(0.045)
2/5	-0.152**	-0.142**
	(0.048)	(0.048)
After	-0.075	-0.064
	(0.066)	(0.066)
Number of observations (N_{it})	212385	212385
Number of individuals (N_i)	26022	26022

Threats to identification

- Unemployment is not assigned randomly, but likely correlates with time-constant unobservables
  - Solution: fixed effects
- Well-being co-varies with age & employment status
  - Problem: Individuals may differ in age-trends from ever-unemployed individuals. Need to account for group-specific age-trends in well-being.
  - Solution: group-specific age trends