Bad Jobs During Bad Times: "Double Scarring" Effects on Fertility Behavior

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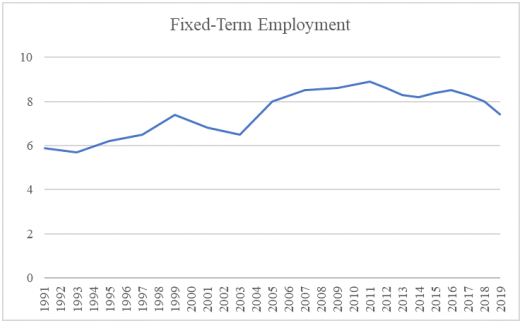
Overview

1. Nonstandard Employment and Fertility
2. Scarring Effects of Recessions
3. Data and Identification Strategy
4. Preliminary Results and Discussion

Bad Jobs During Bad Times: "Double Scarring" Effects on Fertility

Trends of Nonstandard Employment in Germany



- NSE in Germany increased by 10 percent between 1996 and 2011 (second highest among conservative welfare states) (Hipp, et al., 2015)
- Higher risks of precarious conditions (wages, employment stability, etc.) in nonstandard arrangements (Giesecke, 2009; Keller & Seifert, 2013)
- But, heterogeneous between types. Focus on: fixed-term employment

Nonstandard Employment and Fertility

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How does nonstandard employment upon labor market entry affect fertility behavior?

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Some insights from the literature:

- On fixed term employment upon entry:
  - negative effect on overall childbearing (no. of children) (Auer and Danzer, 2016; Schmitt, 2012) especially for women (Alderotti, et al., 2021)
  - postponement of parenthood transition (Auer and Danzer, 2016; Schmitt 2012, 2021)

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  - postponement of parenthood transition (Auer and Danzer, 2016; Schmitt 2012, 2021)

Hypothesis 1: "Job Uncertainty" Effect

Entering the labor market with a fixed-term as opposed to a permanent contract has a negative effect on fertility

Bad Jobs During Bad Times:
"Double Scarring" Effects on Fertility

"Scarring Effects" of Recessions

Surge of papers on scarring effects after the Global Financial Crisis. Extensions include studying the persistent effects of other crises (e.g. Asian financial crisis, Greek debt crisis, etc.).

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The two "victims" of scarring:

1. **Displaced/Unemployed individuals** during a recession experience long-term effects on future incomes and family formation outcomes (Huckfeldt 2021, Hofmann, et al. 2017)
2. **Labor market entrants** during a recession has long-term effects on wage growth, career trajectories, and family formation (Oreopoulos, et al., 2012; Rothstein, 2021; Choi, et al., 2021; Hofmann and Hohmeyer, 2016)

Focus of the paper on (2)

Labor Market Entry During Recessions

Women who graduate during a recession...

- accelerate the transition to parenthood (Choi et al., 2020, Hofmann and Hohmeyer, 2016)
- but the effect on number of children is unclear:
  - higher in South Korea (Choi et al., 2020)
  - lower in the United States (Schwandt and von Wachter, 2021)
  - not significantly different in Germany (Hofmann and Hohmeyer, 2016)
- Overall: the timing of labor market entry seems to play a role in fertility decisions

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Hypothesis 2: "Scarring" Effect

Entering the labor market during a recession as opposed to during normal times has a negative effect on fertility

Bad (First) Jobs During Bad Times?

Characteristics of fixed-term labor market entrants may vary between recessions and normal times.

Hypothesis 3: "Double Scarring" Effect

Entering the labor market with an uncertain job during a recession as opposed to during normal times has a more pronounced negative effect on fertility

Data and Identification Strategy (Preliminary)

Data

Plan: use the Sample of Integrated Labor Market Biographies (SIAB) in Germany where full employment histories, including data on labor market entry, are available.

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Preliminary analysis using the **German Socio-Economic Panel**

- detailed information on respondents' employment and fertility histories
- Operationalizing fertility outcomes:
  - Having a **first child within 5-10 years** after LM entry as a tempo measure (Vignoli, 2021; Auer and Danzer, 2016; Hofmann, et al., 2017)
  - **Number of children 10 years** after LM entry as a quantum measure (Auer and Danzer, 2016)

Operationalization of Treatment Variables

- **Fixed-Term First Job:** first real job succeeding graduation or end of vocational training, excluding apprenticeships from the SOEP retrospective biography questionnaire. Fixed-term first jobs are those reported as *"befristung"*
- **Entry During a Recession:** entire recession years identified in World Bank's WDI and FRED databases (1993, 2002, 2003, 2009)

Data: Deriving the Analytical Sample

Selection: Childless men and women upon labor market entry with information on: (1) whether the first job is fixed-term; and (2) control variables upon entry

	Observations	Person-Yrs
Original SOEP Sample (v36)	149,565	719,653
Info on Fixed-Term First Job	9,083	76,478
Drop First Job = Unemployed	5,583	-
Retain Childless Upon Entry	4,953	-
Drop Missing Educ and Sex	4,790	
Drop Censored Years	3,800	
Fixed-term	1,294	
Permanent	2,506	

Table: Deriving the Analytical Sample

Identification

Preliminarily, Propensity Score Matching

- **Matching variables:** characteristics before and/or during LM entry. A person with a fixed-term first job is matched with the most similar propensity score to the treated but has a permanent job.
- **Outcome of Interest:** Average Treatment Effect on the Treated (ATT). The difference in outcomes between those with fixed-term (treated) and permanent (controls) first jobs among those with fixed-term (treated) first jobs.
- **Alternative matching methods:*** Mahalanobis distance matching and entropy balancing

Preliminary Results and Discussion

Survival Analysis on SOEP Data (unmatched)

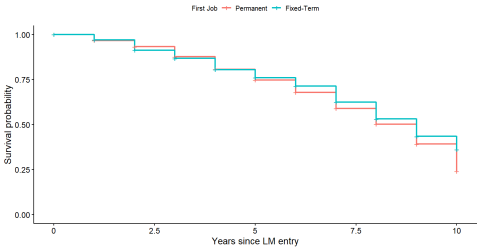


Figure: (a) Males

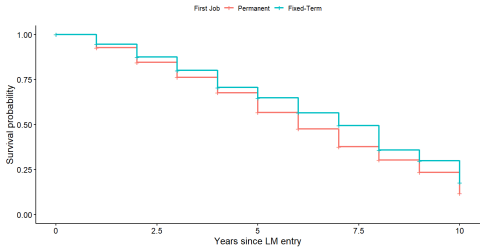


Figure: (b) Females

Note: These were generated from unweighted SOEP data

- Median Duration (in yrs) from Labor Market Entry to First Childbirth (within 10 years):
  - **Males:** Permanent: 9; Fixed-Term: 9
  - **Females:** Permanent: 6; Fixed-Term: 7
- Log-Rank tests confirm **statistically significant difference for females**

Fixed-Term First Job: Establishing Covariate Balance

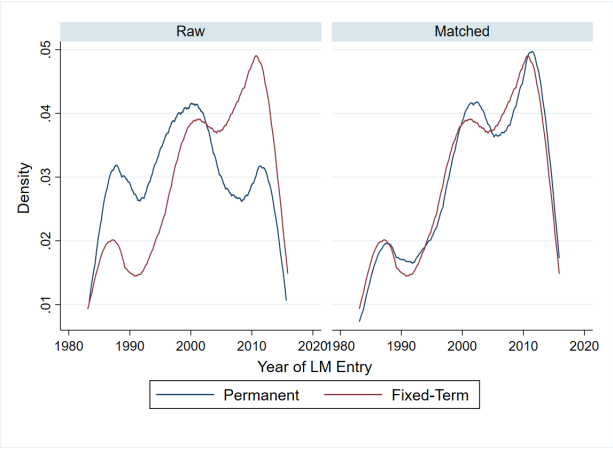


Figure: Kernel Density Plot of Year of LM Entry before and after matching

Fixed-Term First Job: Establishing Covariate Balance

	5 years		6 years		7 years		8 years		9 years		10 years	
	R	M	R	M	R	M	R	M	R	M	R	M
Year of LM Entry	0.33	-0.03	0.03	0.04	0.01	0.06	0.01	0.06	0.01	0.08	0.00	0.06
Birth Year	0.28	-0.06	0.30	-0.01	0.27	0.00	0.27	-0.02	0.25	-0.02	0.22	0.00
First Job Fulltime	-0.25	-0.04	-0.24	-0.04	-0.25	0.00	-0.24	-0.02	-0.23	-0.02	-0.20	-0.02
Female	0.02	0.04	0.34	0.00	0.32	0.00	0.32	-0.01	0.31	-0.01	0.28	0.00
Medium Education	-0.25	-0.02	-0.26	0.00	-0.26	0.01	-0.27	-0.01	-0.26	-0.01	-0.26	0.00
High Education	0.25	0.02	0.25	-0.07	0.26	0.00	0.28	0.00	0.28	0.00	0.27	-0.02
Migration Background	-0.02	0.06	-0.04	0.08	-0.05	0.08	-0.05	0.06	-0.06	0.01	-0.05	0.06
East Germany	0.11	0.05	0.11	0.08	0.11	0.05	0.12	0.02	0.13	0.05	0.12	0.03
N	3476	2326	3328	2216	3154	2052	3000	1928	2890	1830	2783	1772
Treated	1163	1163	1108	1108	1026	1026	964	964	915	915	861	861

Table: Covariate Balance. Standardized Mean Differences between Fixed-Term and Permanent

Fixed-Term First Job: Establishing Covariate Balance

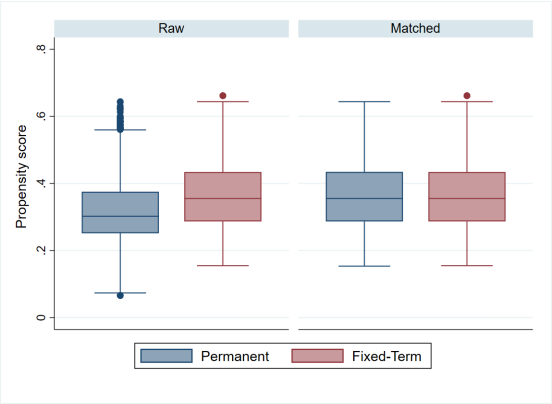


Figure: Propensity scores in the treatment and control groups before and after matching

Matching variables: sex, birth year, year of LM entry, full-time first job, East Germany upon entry, highest education level upon entry

Fixed-Term First Job: Treatment Effect on First Birth

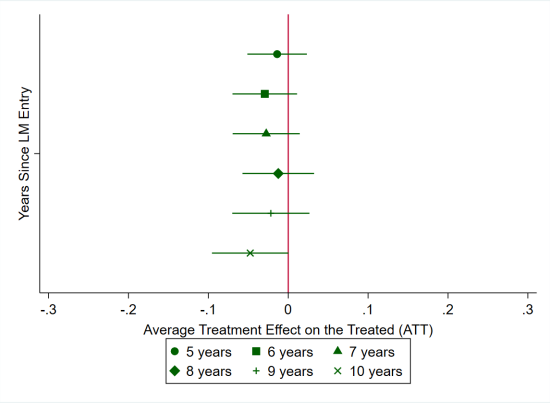


Figure: ATT on First Birth 5-10 Years After LM Entry

- No statistically significant effect seen until about 10 years after LM Entry, where having a fixed-term first job has a negative effect

Fixed-Term First Job: Treatment Effect on No. of Children

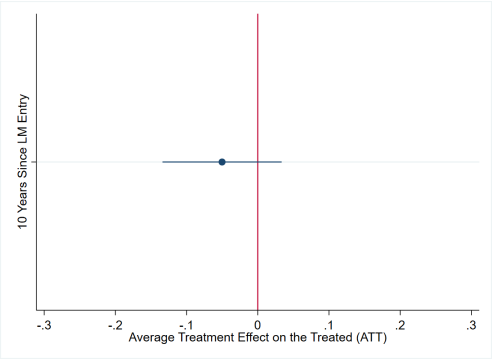


Figure: ATT on Number of Children within 10 Years After LM Entry

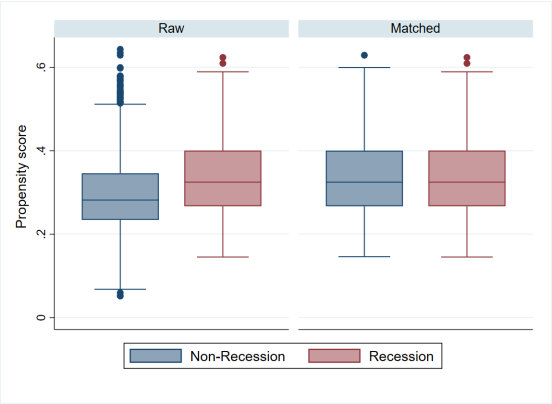
- No statistically significant effect on a person's number of children

Entry During Recessions: Establishing Covariate Balance

	5 years		6 years		7 years		8 years		9 years		10 years	
	R	M	R	M	R	M	R	M	R	M	R	M
First Job Fixed-Term	0.00	-0.22	0.01	-0.13	0.03	-0.24	0.04	-0.06	0.05	-0.15	0.07	0.11
Year of LM Entry	0.15	0.09	0.15	0.23	0.16	0.14	0.17	0.16	0.16	0.18	0.16	0.09
Birth Year	0.29	-0.17	0.39	-0.13	0.53	-0.08	0.66	-0.04	0.76	-0.05	0.86	0.09
First Job Fulltime	-0.05	0.20	-0.07	0.18	-0.10	0.04	-0.12	0.03	-0.15	0.01	-0.18	0.06
Female	0.39	-0.16	0.51	-0.20	0.66	-0.10	0.82	-0.07	0.94	-0.10	1.07	0.00
Medium Education	-0.09	0.14	-0.10	0.01	-0.10	-0.03	-0.10	0.06	-0.11	-0.07	-0.11	0.07
High Education	0.18	0.00	0.18	0.06	0.19	0.01	0.19	0.00	0.21	0.07	0.22	-0.04
Migration Background	-0.17	-0.04	-0.14	-0.07	-0.12	0.07	-0.13	-0.10	-0.13	-0.19	-0.14	-0.16
East Germany	0.10	-0.11	0.10	-0.03	0.10	-0.07	0.10	-0.03	0.10	-0.14	0.11	0.01
N	3476	874	3328	874	3154	874	3000	874	2890	874	2783	874
Treated	437	437	437	437	437	437	437	437	437	437	437	437

Table: Covariate Balance. Standardized Mean Differences between Recession and Non-Recession Entrants

Entry During Recessions: Establishing Covariate Balance



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Entry During Recessions: Treatment Effect on First Birth

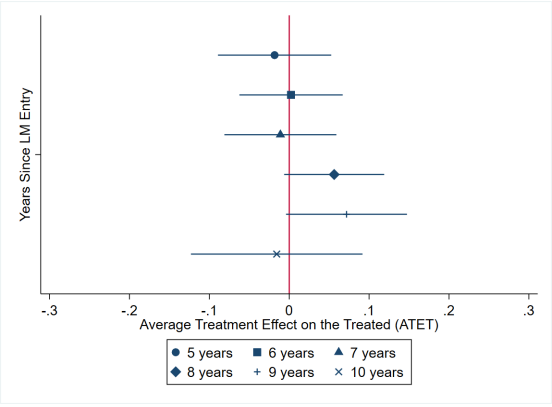

Figure: ATT on First Birth 5-10 Years After LM Entry

- No statistically significant effect on first birth probabilities

Entry During Recessions: Treatment Effect on No. of Children

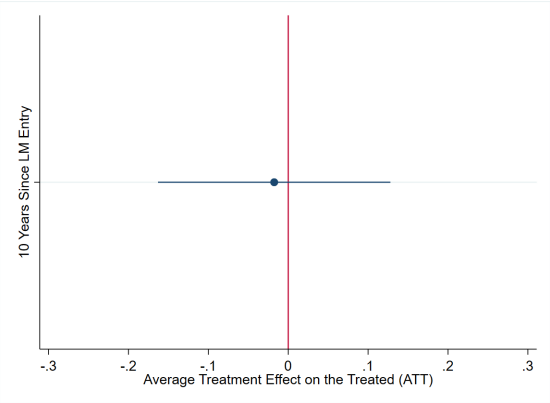

Figure: ATT on No. of Children within 10 Years After LM Entry

- No statistically significant effect on a person's number of children

Summary of Preliminary ATT Results

	Fixed-Term vs. Permanent			Recession vs. Non-Recession		
	ATT	SE	Obs	ATT	SE	Obs
First Birth After:						
5 Years	-0.014	0.019	3476	-0.018	0.036	3476
6 Years	-0.029	0.021	3328	0.002	0.033	3328
7 Years	-0.028	0.021	3154	-0.011	0.036	3154
8 Years	-0.012	0.023	3000	0.056	0.032	3000
9 Years	-0.022	0.025	2890	0.072	0.039	2890
10 Years	-0.048	0.024	2783	-0.016	0.055	2783
No. of Children	-0.050	0.043	2783	-0.017	0.074	2783

Table: Summary of ATT Results

Discussion

Preliminary results using the SOEP suggest:

- null effects of fixed-term first jobs on first birth within 5-9 years after LM entry and a negative effect on the 10th year.
- null effect of fixed-term first jobs on number of children within 10 years
- null effect of entry during a recession on all fertility outcomes

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However: Heterogeneous Treatment Effects not yet analyzed!

- Characteristics of fixed-term labor market entrants vary between upturns and downturns.
- Hofmann, et al. (2017) find mostly null effects of job displacement on first birth each year within 5 years of displacement but significant negative effects for those displaced during downturns

Next Steps

- Representativeness and the sample size are big concerns. Re-examining this analysis on a larger dataset (i.e. register data) is underway.
- Demonstrate robustness (or lack thereof) of results. Alternative definition of LM entry, fertility outcomes, etc.
- Unpack potential mechanisms: the role of wage growth, occupational sectors in the relationship

Thank you!

For questions or feedback:
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