Maternity Leave and Long-term Health Outcomes of Children

Work in progress

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Motivation

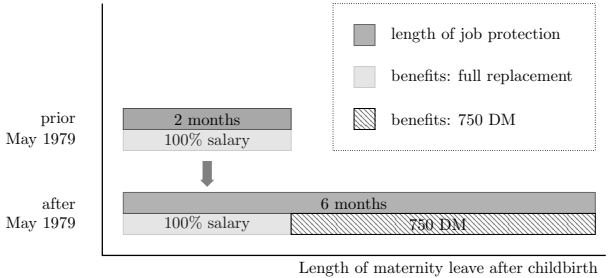
Early childhood conditions

- great impact on later life outcomes (Almond & Currie 2011, ...)
- multidimensional: health shocks (infections), toxic exposure (radiation), home environment (maternal employment), ...
- scope for public policy: **maternity leave mandates** - originally established with the goal to protect against job dismissal and damages to maternal and infant health, and secure standards of living by compensating income losses; allow to take a break from work and focus on child care
- effects of leave schemes have been examined a lot $\rightarrow$ add one piece to the puzzle

Research question

$\Rightarrow$ **What are the causal effects of the length of maternity leave on children's health in the long-run?**

Evaluation: 1979 Reform in West Germany



Exogenous variation in maternity leave:

- Extension in paid leave by four months
- Universal eligibility for working women
- Approx. take-up 40%

First stage:

- Share of mothers who had returned to work by third month after childbirth is reduced by 30 pp ($\frac{2}{3}$ of reduction due to decline in full-time work)
- Labor supply is cut down, on average, by 0.835 months
- Increase of cumulative available income by on average 1,700 DM (low wage mothers benefit more)

Channels: Length of ML → LR child health outcomes?

Barker Hypothesis

Biological embedding during sensitive periods

- developing brain circuits are more receptive to environmental signals
- programming activity culminates in the first years of life (Räikkönen et al., 2012)
- infancy: hippocampus (regulation of emotions, social behavior, stress responsiveness, and ultimately mental health, Shonkoff et al., 2009)
- *timing* and *type* of experience matter

effects of experience may be **latent** at first, lag of many years (even decades) possible

Potential changes in children's environment due to the reform

1. **More maternal time during crucial time period for child development** ⊕
   - Breastfeeding (Baker and Milligan, 2008)
     - medical advantages (Horta et al., 2007)
     - stronger mother-child bond → crucial for cognitive development (Klaus, 1998); associated with less behavioral problems (Brooks-Gunn et al., 2002)
   - Better monitor child's health status and more timely doctor visits (Berger et al., 2005)
   - Prepare healthier meals and lower risk of injuries and infectious disease (Morrill, 2011)
2. **Changes in parental health outcomes** ⊕ , e.g. stress, depression, poor health → affect ability to nurture (Beuchert et al., 2014; Crnic et al., 2005)
3. **Changes in HH income** ⊕
   - association with educational attainment (Dahl and Lochner, 2012), child health (Hoynes et al., 2015) & brain development (Duncan et al, ongoing)

Difference-in-Difference Regression Discontinuity

Estimation strategy following Dustmann and Schönberg (2012),...: eradicate season-of-birth effects

$$Y_{mt} = \gamma_0 + \gamma_1 T_m + \gamma_2 After_m + \gamma_3 (T_m \times After_m) + \psi_m + \rho_t + \xi_{mt}$$

- Y_{mt}: number of diagnoses per thousand individuals in respective month-of-birth cohort
- T_m: treatment dummy equals one if individual is born in the treatment year
- $After_m$: dummy whether individual is born in/after May
- $T_m \times After_m$: interaction equals one for group of interest (born between May-Oct 1979 in the widest specification)
- ψ_m, ρ_t birth month and year (wave) fixed effects
- local estimation: 3-6 months to the left/right of reform cut-off date
- `control` cohort: birth cohort one year prior to the reform
- Identifying assumption: seasonal part is time-invariant
- Intention-to-treat effect

▷ Validity: fertility distribution & covariate balance

Data & Variables

Hospital administrative data (1995-2014):

- Universe of German in-patient cases (≈ 18 Mio/year).
  Information about patient's main diagnosis, age, gender, place of residence, date of admission and discharge. ▷ descriptives
- Outcomes:
  - hospitalization (all diagnoses)
  - specific chapters according to the ICD classification system
    e.g. mental and behavioral disorders ("F" chapter ICD-10, 12-18% of all diagnoses in 2014 - most frequent diagnosis for age group 15 to 35 years)

  ▷ ICD coding ▷ most common diagnosis types per age group
- define dependent variable as number of cases per 1,000 individuals in the region of West-Germany
- level of analysis: cohort$\times$month-of-birth$\times$year

(1) Hospital admission (all inpatients)

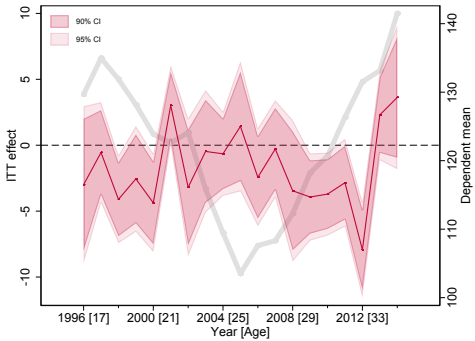
	Estimation window				
	(1) 6M	(2) 5M	(3) 4M	(4) 3M	(5) Donut
Panel A. Over entire length of the life-course					
Overall	-2.076**	-1.872*	-2.176*	-2.214+	-2.576***
	(0.772)	(0.905)	(1.126)	(1.399)	(0.813)
Dependent mean	121.1	121.0	121.5	123.3	121.9
N (MOB $\times$ year)	456	380	304	228	380
Panel B. Age brackets					
Age 17-21	-1.517+	-0.590	-0.735	-1.095	-1.963**
	(0.946)	(0.995)	(1.198)	(1.603)	(0.931)
Age 22-26	-0.611	-0.613	-0.667	-0.735	-1.080
	(0.937)	(1.113)	(1.412)	(1.672)	(1.012)
Age 27-31	-2.665***	-3.015***	-3.209**	-2.546*	-2.974***
	(0.826)	(0.909)	(1.132)	(1.375)	(0.949)
Age 32-35	-3.869***	-3.619**	-4.572***	-5.045**	-4.717***
	(1.083)	(1.277)	(1.460)	(1.721)	(1.191)

Notes: Clustered standard errors are reported in parentheses.
Significance levels: + p $<$ 0.15, * p $<$ 0.10, ** p $<$ 0.05, *** p $<$ 0.01.

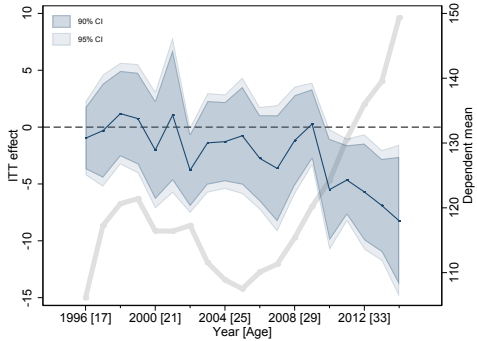
▷ by gender

(1) Hospitalization: life-cycle perspective

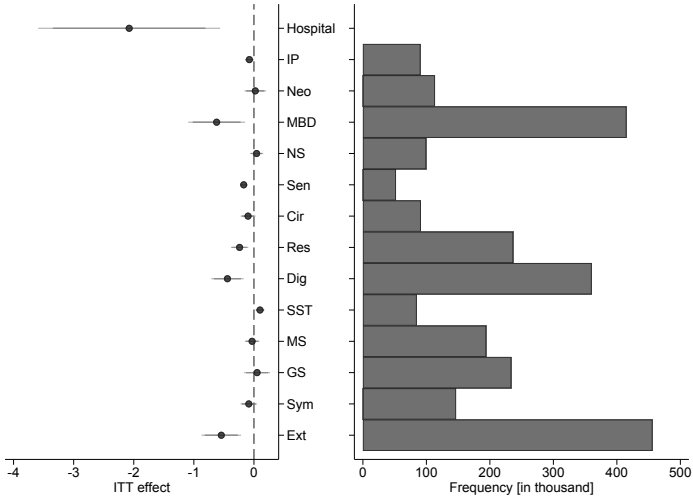
(a) Women



(b) Men



(2) Effect distribution across diagnosis chapters



▷ by gender

Summary

Effects on hospital admission...

- results are driven by men
- differentials are opening up from the age of 28 onwards
- largest effect stemming from mental & behavioral disorders (absolute and relative (% of baseline mean))

(3) Mental & behavioral disorders (all in-patients)

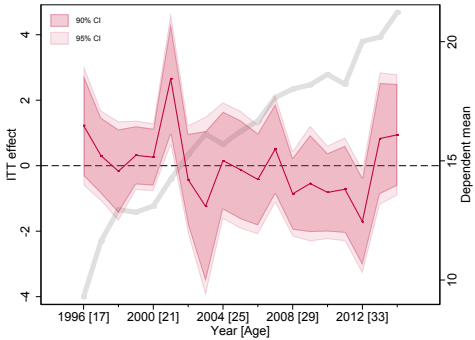
	Estimation window				
	(1) 6M	(2) 5M	(3) 4M	(4) 3M	(5) Donut
Panel A. Over entire length of the life-course					
Overall	-0.621**	-0.734**	-0.853**	-0.688+	-0.789***
	(0.242)	(0.272)	(0.336)	(0.423)	(0.262)
Dependent mean	19.57	19.59	19.67	19.84	19.77
N (MOB $\times$ year)	456	380	304	228	380
Panel B. Age brackets					
Age 17-21	0.174	0.268	0.318	0.135	-0.0603
	(0.263)	(0.314)	(0.387)	(0.516)	(0.239)
Age 22-26	-0.00769	-0.146	-0.172	0.343	-0.360
	(0.420)	(0.500)	(0.607)	(0.640)	(0.454)
Age 27-31	-1.000**	-1.301***	-1.508***	-1.258**	-1.020**
	(0.357)	(0.391)	(0.478)	(0.546)	(0.433)
Age 32-35	-1.906***	-2.015***	-2.352***	-2.293***	-1.949***
	(0.372)	(0.295)	(0.305)	(0.365)	(0.439)

Notes: Clustered standard errors are reported in parentheses.
Significance levels: + p < 0.15, * p < 0.10, ** p < 0.05, *** p < 0.01.

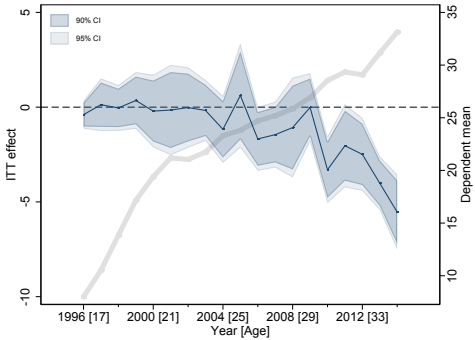
▷ by gender

(3) MBD: life-cycle perspective

(a) Women

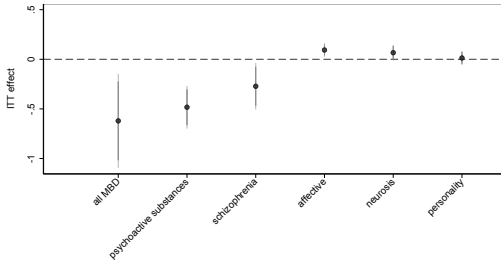


(b) Men

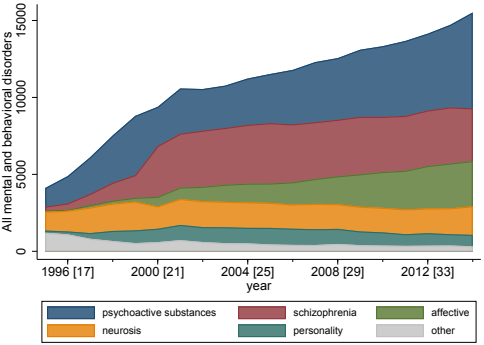


(4) Results per subcategory

(a) ITT effects



(b) Diagnosis distribution over time



(5) Robustness

The results are robust to:

- Alternative **specifications**:
  - denominator: current population (approximated)
  - level of analysis: labor-market region ▷ map
- Alternative **estimation**:
  - triple difference model
  - DD with East Germany
  - more control cohorts
- **Placebos**: temporal and spatial
- **Heterogeneity**: effects are larger in urban areas

▷ Table ▷ RD plots

Concluding remarks

- **Summary:**
  - A large body of the literature finds mixed effects on other outcomes (SES) - long-run health outcomes (in particular mental health) have not been in the center of the discussion
  - Our results suggest that ML reform had significantly positive effects on child mental health in the long run.
  - Goal of ML: improve welfare of mothers and children
  - some benefits of ML materialize later and in other dimensions than what policy makers had in mind originally: saving of EUR 7.0 million in 2014 for MBD (720 fewer diagnoses $\times$ EUR 9,823)

▷ further results Micro Census: health & socio-economic outcomes

Thank you very much for your attention!

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Validity

Problem: Behavioral responses with respect to the running variable. Is birth a random variable $\sim \mathcal{N}(40w, 2w)$?

- **Strategic conception**
  draft bill does not allow to react to reform (4 months before reform put into practice), media coverage (earliest 2 months)
- **Postponing induced births and cesarean sections**
  Gans & Leigh (2009): Australian baby bonus
  $\rightarrow$ similar distortionary "introduction effects"?
  1. Timing of birth $\rightarrow$ fertility distribution
  2. Parental pre-determined covariate balance

$\Rightarrow$ No indication of sorting, occurrence of birth is a random event; policy change can be seen as true quasi-experiment
$\Rightarrow$ Additional robustness check: Donut specification

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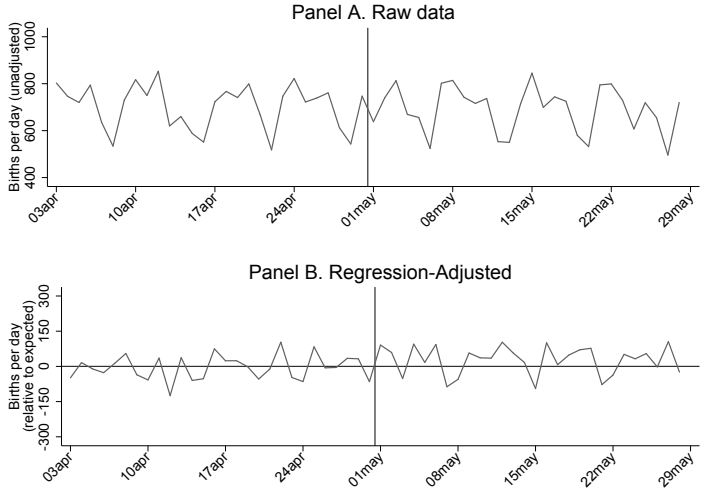
Validity I



Note: The figure displays the daily number of birth, both raw and when accounting for day of year, public holiday, and year $\times$ day of week fixed effects. Source: Destatis.

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Validity II: regression results

	Estimation window			
	(1) ±7 days	(2) ±14 days	(3) ±21 days	(4) ±28 days
Panel A. Dependent variable is number of births				
ML reform	-30.46	-30.23*	-33.32**	-32.78***
	(30.31)	(17.73)	(14.08)	(12.37)
Observations	196	392	588	784
R^2	0.856	0.842	0.832	0.817
Panel B. Dependent variable is ln(number of births)				
ML reform	-0.0448	-0.0440*	-0.0477**	-0.0476***
	(0.0425)	(0.0247)	(0.0197)	(0.0173)
Observations	196	392	588	784
R^2	0.855	0.844	0.833	0.819

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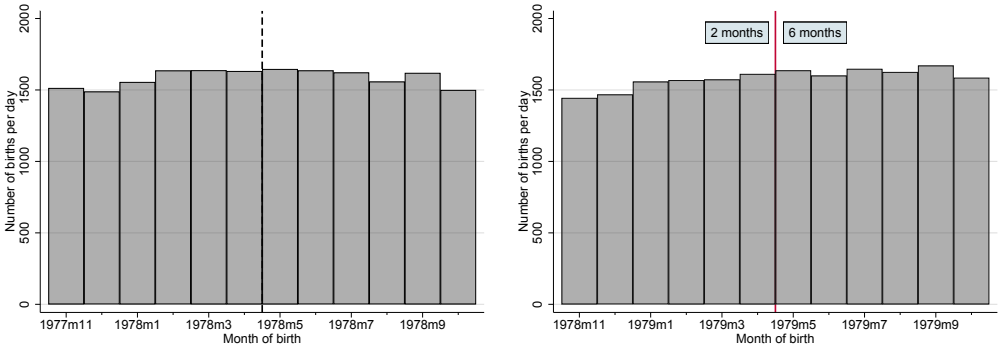
Validity III: Fertility distribution

(a) Control: Nov 1977-Oct 1978

(b) Treatment: Nov 1978-Oct 1979



Note: The figures display the relative frequency of birth months per birth cohort, adjusted for different lengths of the months. Source: Destatis.

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Validity IV: Balancing table

Pre-determined covariate balance

Group	Control Group (Nov77-Oct78)			Treatment Group (Nov78-Oct79)			
	(1) $\mathbb{E}_{Pre}[Y]$	(2) $\mathbb{E}_{Post}[Y]$	(3) Raw Δ	(4) $\mathbb{E}_{Pre}[Y]$	(5) $\mathbb{E}_{Post}[Y]$	(6) Raw Δ	(7) DD-RD
German citizenship							
	0.701	0.729	0.028	0.750	0.753	0.002	-0.012
			(0.018)			(0.018)	(0.017)
Age at childbirth							
	28.996	28.977	-0.018	29.003	29.077	0.074	-0.002
			(0.340)			(0.247)	(0.348)
Education: Secondary school leaving qualification from							
Lowest track	0.441	0.484	0.043	0.450	0.432	-0.018	-0.024
			(0.033)			(0.015)	(0.018)
Middle track	0.207	0.217	0.010	0.244	0.247	0.003	0.003
			(0.026)			(0.015)	(0.016)
Highest track	0.264	0.236	-0.028	0.252	0.265	0.013	0.008
			(0.020)			(0.015)	(0.015)

Note: The table compares parental characteristics within half a year around the threshold. It reports difference-in-means and DD-RD estimates. Source: German Micro Census, waves 2005, 2009 and 2013.

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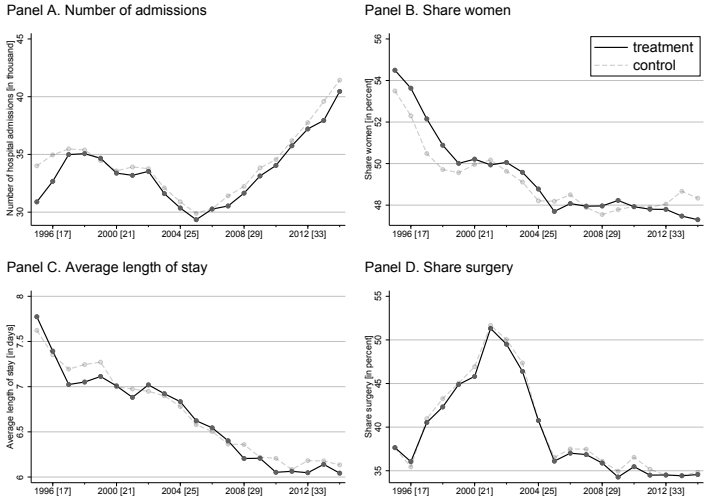
Hospitalization



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Outcome classification

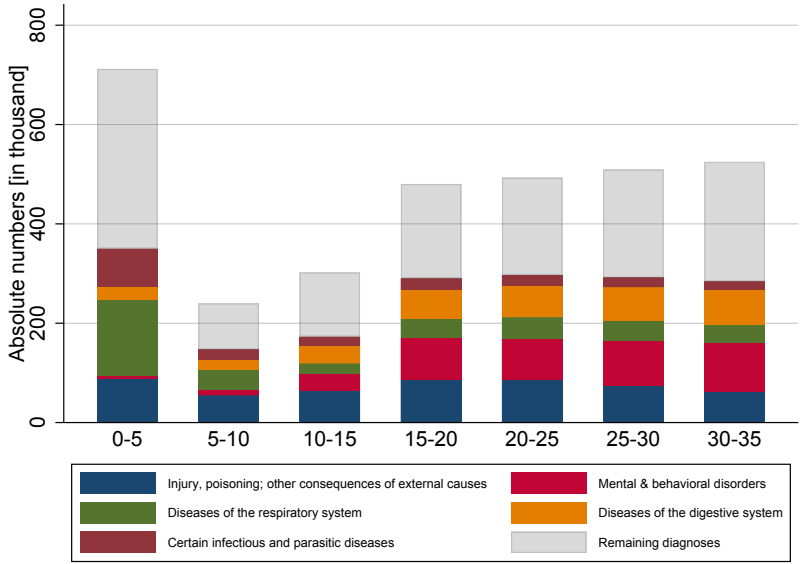
	(1) ICD-9	(2) ICD-10	(3) Mean	(4) SD
A. Hospital admission			120.625	10.961
Infectious and parasitic diseases	001-139	A00-B99	4.210	0.493
Neoplasms	140-239	C00-D48	5.155	1.282
Mental & behavioral disorders	290-319	F00-F99	18.956	5.548
Diseases of the nervous system	320-359	G00-G99	4.500	1.264
Diseases of the sense organs	360-389	H00-H95	2.404	0.348
Diseases of the circulatory system	390-459	I00-I99	4.108	1.380
Diseases of the respiratory system	460-519	J00-J99	10.994	1.939
Diseases of the digestive system	520-579	K00-K93	16.746	2.079
Diseases of the skin and subcutaneous tissue	680-709	L00-L99	3.849	0.536
Diseases of the musculoskeletal system	710-739	M00-M99	8.897	2.228
Diseases of the genitourinary system	580-629	N00-N99	10.621	1.362
Symptoms, signs, and ill-defined conditions	780-799	R00-R99	6.794	1.410
Injury, poisoning and certain other consequences of external causes	800-999	S00-T98	21.196	5.978

Back to data & variables

Outcome classification: MBD

	(1) ICD-9	(2) ICD-10	(3) Mean	(4) SD
B. Mental & behavioral disorders			18.956	5.548
Organic, including symptomatic, mental disorders	290,293,294,310	F00-F09	0.115	0.056
MBD due to psychoactive substance use[1]	291,292,303,304,305	F10-F19	6.366	2.232
Schizophrenia, schizotypal and delusional disorders	295,297,298	F20-F29	5.140	2.246
Mood [affective] disorders	296,311	F30-F39	2.339	1.673
Neurotic, stress-related and somatoform disorders	300,306,308,309	F40-F48	2.799	0.356
Behavioural syndromes associated with physiological disturbances and physical factors	316	F50-F59	0.308	0.225
Disorders of adult personality and behavior	301,302	F60-F69	1.375	0.511
Mental retardation	317,318,319	F70-F79	0.121	0.075
Disorders of psychological development	299,315	F80-F89	0.026	0.029
Behavioural and emotional disorders with onset usually occurring in childhood and adolescence	312,313,314,307	F90-F98	0.320	0.535

Back to data & variables



Back to data & variables

Hospital admission (women)

	Estimation window				
	(1) 6M	(2) 5M	(3) 4M	(4) 3M	(5) Donut
Panel A.Over entire length of the life-course					
Overall	-1.742**	-1.224	-0.689	-0.862	-2.164***
	(0.816)	(0.924)	(1.117)	(1.504)	(0.718)
Dependent mean	122.3	121.9	121.9	123.8	123.2
N (MOB $\times$ year)	456	380	304	228	380
Panel B. Age brackets					
Age 17-21	-2.916***	-1.931*	-1.274	-2.121+	-3.322***
	(0.935)	(0.959)	(1.018)	(1.269)	(0.985)
Age 22-26	0.0274	0.557	1.126	0.707	-0.510
	(1.267)	(1.461)	(1.806)	(2.395)	(1.117)
Age 27-31	-2.762**	-2.605**	-1.669	-1.379	-2.944***
	(1.004)	(1.163)	(1.336)	(1.765)	(0.917)
Age 32-35	-1.212	-0.841	-1.004	-0.605	-1.810*
	(0.866)	(1.024)	(1.165)	(1.300)	(0.941)

Notes: Clustered standard errors are reported in parentheses.
Significance levels: + p < 0.15, * p < 0.10, ** p < 0.05, *** p < 0.01.

▷ back

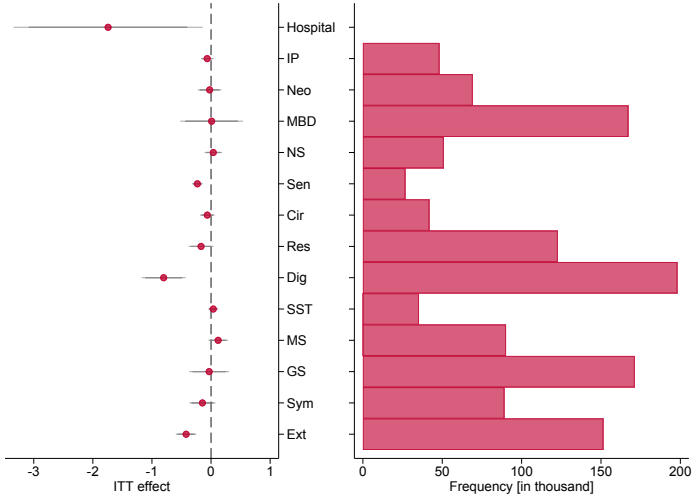
Hospital admission (men)

	Estimation window				
	(1) 6M	(2) 5M	(3) 4M	(4) 3M	(5) Donut
Panel A. Over entire length of the life-course					
Overall	-2.410**	-2.502*	-3.593**	-3.506**	-2.986**
	(1.015)	(1.204)	(1.373)	(1.568)	(1.178)
Dependent mean	120.0	120.2	121.2	122.7	120.7
N (MOB $\times$ year)	456	380	304	228	380
Panel B. Age brackets					
Age 17-21	-0.273	0.634	-0.246	-0.157	-0.757
	(1.201)	(1.344)	(1.592)	(2.147)	(1.241)
Age 22-26	-1.230	-1.738	-2.373+	-2.113	-1.633
	(1.048)	(1.226)	(1.497)	(1.519)	(1.241)
Age 27-31	-2.558*	-3.408**	-4.669**	-3.650**	-2.987*
	(1.294)	(1.433)	(1.625)	(1.467)	(1.528)
Age 32-35	-6.373***	-6.244***	-7.955***	-9.253***	-7.461***
	(1.526)	(1.781)	(1.969)	(2.318)	(1.722)

Notes: Clustered standard errors are reported in parentheses.
Significance levels: + p < 0.15, * p < 0.10, ** p < 0.05, *** p < 0.01.

▷ back

Effect distribution (women)



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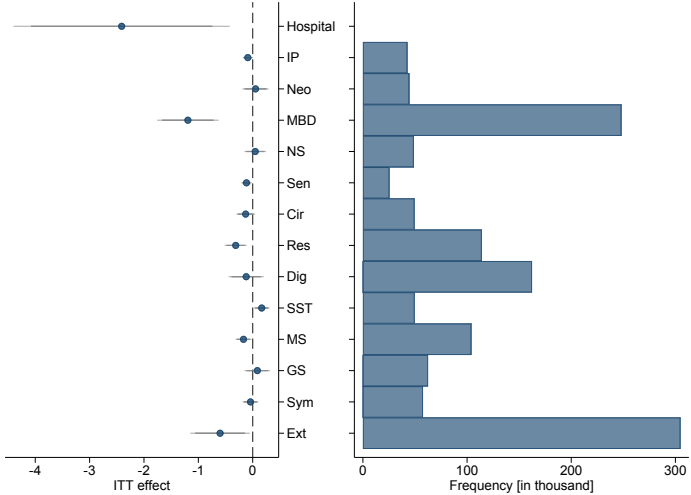
Effect distribution (men)



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Mental & behavioral disorders (women)

	Estimation window				
	(1) 6M	(2) 5M	(3) 4M	(4) 3M	(5) Donut
Panel A.Over entire length of the life-course					
Overall	0.00972	-0.0900	-0.205	-0.244	0.0211
	(0.271)	(0.303)	(0.377)	(0.496)	(0.285)
Dependent mean	16.11	16.09	16.09	16.32	16.32
N (MOB $\times$ year)	456	380	304	228	380
Panel B. Age brackets					
Age 17-21	0.388	0.416	0.527	0.0745	0.235
	(0.313)	(0.378)	(0.463)	(0.555)	(0.318)
Age 22-26	0.205	0.119	0.0485	0.217	-0.0753
	(0.466)	(0.558)	(0.700)	(0.791)	(0.499)
Age 27-31	-0.426	-0.598	-0.816	-0.612	-0.273
	(0.418)	(0.469)	(0.579)	(0.781)	(0.426)
Age 32-35	-0.163	-0.349	-0.671*	-0.760^{+}	0.242
	(0.388)	(0.335)	(0.344)	(0.466)	(0.396)

Notes: Clustered standard errors are reported in parentheses.
Significance levels: $+$ p $<$ 0.15, * p $<$ 0.10, ** p $<$ 0.05, *** p $<$ 0.01.

▷ back

Mental & behavioral disorders (men)

	Estimation window				
	(1) 6M	(2) 5M	(3) 4M	(4) 3M	(5) Donut
Panel A. Over entire length of the life-course					
Overall	-1.192***	-1.328***	-1.462***	-1.098**	-1.533***
	(0.288)	(0.336)	(0.412)	(0.486)	(0.286)
Dependent mean	22.84	22.91	23.07	23.19	23.05
N (MOB $\times$ year)	456	380	304	228	380
Panel B. Age brackets					
Age 17-21	-0.0319	0.129	0.119	0.192	-0.344+
	(0.262)	(0.300)	(0.373)	(0.507)	(0.217)
Age 22-26	-0.180	-0.379	-0.373	0.475	-0.602
	(0.485)	(0.575)	(0.683)	(0.680)	(0.526)
Age 27-31	-1.504***	-1.943***	-2.152***	-1.854**	-1.690***
	(0.507)	(0.542)	(0.675)	(0.652)	(0.570)
Age 32-35	-3.518***	-3.568***	-3.938***	-3.733***	-3.989***
	(0.515)	(0.522)	(0.596)	(0.741)	(0.515)

Notes: Clustered standard errors are reported in parentheses.
Significance levels: + p < 0.15, * p < 0.10, ** p < 0.05, *** p < 0.01.

▷ back

(5) Robustness Hospitalization

		Alternative specifications		Alternative estimation			Placebos		Heterogeneity	
	(1) Baseline	(2) current population	(3) LMR level[a]	(4) DDD[b]	(5) alt. DD[b]	(6) add. CG	(7) temporal: cohort	(8) spatial: GDR	(9) rural[a]	(10) urban[a]
(1) total	-2.168**	-1.581**	-1.771***	-2.313*	-2.512***	-2.327**	-0.318	0.154	-1.654	-1.799***
	(0.782)	(0.675)	(0.623)	(1.127)	(0.743)	(1.003)	(0.946)	(0.469)	(1.096)	(0.598)
(2) female	-1.815	-0.694	-0.740	-1.255	-2.444***	-1.573	0.483	-0.396	0.164	-0.955
	(0.807)	(0.633)	(0.597)	(1.231)	(0.791)	(1.114)	(0.942)	(0.503)	(1.716)	(0.642)
(3) male	-2.525**	-2.462**	-2.816***	-3.252**	-2.516***	-3.063**	-1.076	0.593	-3.360***	-2.686**
	(0.997)	(0.981)	(0.945)	(1.310)	(0.779)	(1.140)	(1.059)	(0.714)	(1.177)	(1.023)
For total:										
Dependent mean	120.6	92.22	98.66	121.8	121.8	120.6	120.2	66.29	101.3	96.50
Effect in SDs [%]	19.78	16.21	4.750	20.94	22.74	21.23	3.060	1.260	3.880	5.600
N	480	288	53,855	912	456	720	480	456	24,287	29,568
MOB fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

▷ back to robustness

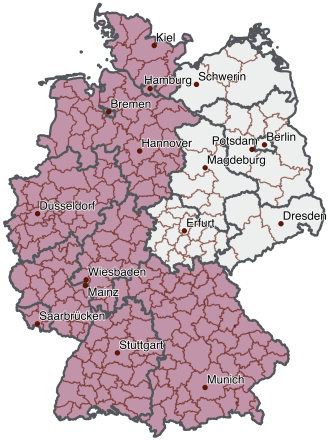
(5) Robustness MBD

		Alternative specifications		Alternative estimation			Placebos		Heterogeneity	
	(1) Baseline	(2) current population	(3) LMR level[a]	(4) DDD[b]	(5) alt. DD[b]	(6) add. CG	(7) temporal: cohort	(8) spatial: GDR	(9) rural[a]	(10) urban[a]
(1) total	-0.634**	-0.832***	-0.844***	-0.872**	-0.547***	-0.553**	0.162	0.252	-0.241	-0.986***
	(0.249)	(0.239)	(0.219)	(0.321)	(0.166)	(0.269)	(0.304)	(0.155)	(0.564)	(0.196)
(2) female	0.0599	-0.0853	-0.130	-0.0138	-0.157	0.289	0.457	0.0235	0.0904	-0.182
	(0.266)	(0.266)	(0.261)	(0.326)	(0.153)	(0.287)	(0.369)	(0.215)	(0.814)	(0.259)
(3) male	-1.267***	-1.554***	-1.558***	-1.627***	-0.866***	-1.323***	-0.112	0.434*	-0.482	-1.811***
	(0.292)	(0.299)	(0.283)	(0.392)	(0.205)	(0.322)	(0.331)	(0.225)	(0.458)	(0.331)
For total:										
Dependent mean	18.96	17.28	17.88	19.57	19.57	18.96	18.67	8.850	17.00	18.61
Effect in SDs [%]	11.43	41.92	5.230	17.48	10.97	9.960	3.490	12.91	1.310	7.100
N	480	288	53,855	912	456	720	480	456	24,287	29,568
MOB fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

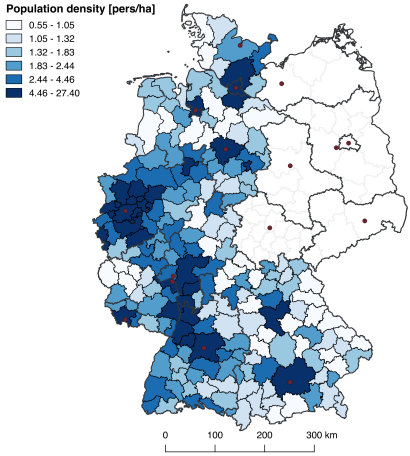
▷ back to robustness

Labor market regions

(a) Regions



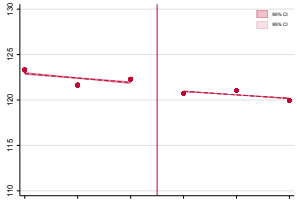
(b) Population density



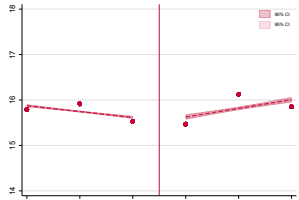
▷ back to robustness

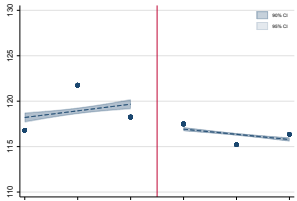
RD plots

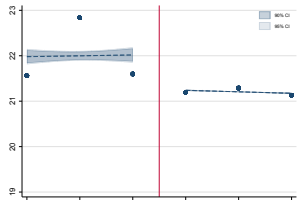
(a) Hospitalization



(b) MBD







▷ back to robustness

Further results

German Micro Census:

- Males less likely to be on sick leave
- No effects on labor market- and family outcomes; small effect on educational attainment

▷ Back to conclusion

Results from the German Micro Census

Health outcomes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Total			**Heterogeneity Analysis**			
Dependent variable				Men	Women	Native	Migration background
(1) Overweight & obesity	0.0119	0.00891	0.0114	0.0176	0.00774	0.0146	-0.0224
$N = 19,371$	(0.00881)	(0.00865)	(0.00771)	(0.0144)	(0.0130)	(0.00879)	(0.0305)
(2) Disability	-0.00566	-0.00613	-0.00587	-0.00429	-0.00729*	-0.00451	-0.0197***
$N = 22,471$	(0.00419)	(0.00418)	(0.00423)	(0.00591)	(0.00356)	(0.00434)	(0.00543)
(3) Sickness	-0.00189	-0.00280	-0.00268	-0.0156**	0.0102	-0.00332	0.0169
$N = 22,464$	(0.00474)	(0.00466)	(0.00473)	(0.00718)	(0.00676)	(0.00469)	(0.0177)
(4) Hospital	-0.0249*	-0.0252*	-0.0225	-0.0367	-0.0147	-0.0155	-0.141**
$N = 2,648$	(0.0142)	(0.0140)	(0.0137)	(0.0278)	(0.0227)	(0.0161)	(0.0603)
Birthmonth FE	X	X	X	X	X	X	X
Time FE		X	X	X	X	X	X
Pers. covar.			X	X	X	X	X

Note: This table reports various DD-RD estimates of the impact of the expansion of maternity leave from two to six months on different sets of health outcomes. The estimates are based on equation 1. The control group is comprised of children that are born in the same months but one year prior the reform (i.e. children born between November 1977 and October 1978). Clustered standard errors are reported in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Source: German Micro Census, waves 2005, 2009 and 2013).

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Causal effects on socio-economic outcomes

	(1)	(2)	(3)	(4)
Educational attainment	Track 1	Track 2	Track 3	University degree
	0.00251	-0.0126***	0.0100	0.0214**
	(0.00813)	(0.00339)	(0.00714)	(0.00910)
	$N = 82{,}205$	82,205	82,205	17,553
Family outcomes	Married	Child		
	0.00191	0.00123		
	(0.00695)	(0.00687)		
	$N = 84{,}231$	83,884		
Labor market outcomes	Employed	Household Income	Full-time contract	
	0.00151	27.93	-0.00629	
	(0.00313)	(23.14)	(0.00721)	
	$N = 74{,}000$	65,012	70,737	

Note: This table reports various DD-RD estimates of the impact of the expansion of maternity leave from two to six months on different sets of socio-economic outcomes. Clustered standard errors are reported in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Source: German Micro Census, waves 2005-2013).

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