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Article — Accepted Manuscript (Postprint)

Parental leave policies and socio-economic gaps in child development: Evidence from a substantial benefit reform using administrative data

Labour Economics

Provided in Cooperation with:

German Institute for Economic Research (DIW Berlin)

Suggested Citation: Huebener, Mathias; Kuehnle, Daniel; Spiess, C. Katharina (2019): Parental leave policies and socio-economic gaps in child development: Evidence from a substantial benefit reform using administrative data, Labour Economics, ISSN 0927-5371, Elsevier, Amsterdam, Vol. 61,

https://doi.org/10.1016/j.labeco.2019.101754

This Version is available at: https://hdl.handle.net/10419/243172

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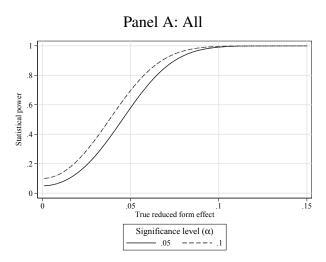
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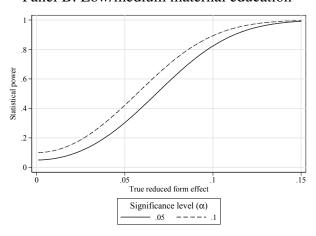
Online Appendix on child development outcomes

Supplementary material for Huebener, Kuehnle, & Spiess (2019): "Parental leave policies and socio-economic gaps in child development: Evidence from a substantial benefit reform using administrative data"

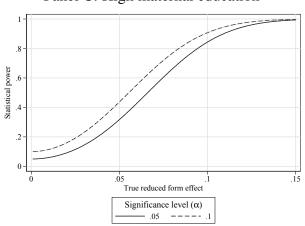
Figure B.1: Power analysis



Panel B: Low/medium maternal education



Panel C: High maternal education



Notes: The figure plots the statistical power for school readiness with type I error probabilities of 5% and 10%. For the calculations, we specify (separately for each group) the number of observations, the conditional standard deviation of the treatment effect dummy and the conditional standard deviation of the standardised school readiness score. *Source:* Own calculations using STATA's *power oneslope* command.

Table B.1: Comparison of socio-economic characteristics of Schleswig-Holstein to the rest of West Germany

	Schleswig-Holstein	West	West*	
Age	44.07	43.21	43.22	
Female	0.52	0.52	0.52	
Unmarried	0.38	0.39	0.39	
Married	0.47	0.47	0.48	
Divorced	0.07	0.06	0.06	
Household size	2.67	2.75	2.76	
Children in household	0.92	0.97	0.98	
Born in Germany	0.89	0.85	0.85	
Working	0.45	0.47	0.47	
Unemployed	0.03	0.03	0.03	
Out of the labour force	0.51	0.5	0.5	
Female labour force participation rate	0.80	0.80	0.80	
Share of children below age 3 in day care ^a	0.12	0.12	0.12	
Share of children aged 3-6 in day care ^a	0.84	0.91	0.91	
Share of fathers taking parental leave ^b	0.18	0.20	0.20	
Highest level of education				
≤ ISCED3	0.25	0.28	0.28	
ISCED4	0.04	0.05	0.05	
ISCED5	0.47	0.42	0.42	
ISCED6	0.06	0.06	0.06	
≤ ISCED7	0.18	0.20	0.20	
Personal monthly net income (Euro)				
0 - 1,100	0.52	0.53	0.53	
1,100-2,300	0.29	0.3	0.3	
2,300-3,600	0.07	0.06	0.06	
3,600-5,000	0.03	0.03	0.03	
5,000-18,000	0.01	0.01	0.01	
Household monthly net income (Euro)				
0 - 1,100	0.1	0.1	0.1	
1,100-2,300	0.29	0.31	0.31	
2,300-3,600	0.19	0.2	0.2	
3,600-5,000	0.14	0.15	0.15	
5,000-18,000	0.09	0.09	0.09	
Municipality size				
<2,000	0.19	0.05	0.05	
2,000-5,000	0.11	0.09	0.09	
5,000-10,000	0.12	0.12	0.12	
10,000-50,000	0.33	0.35	0.36	
50,000-100,000	0.08	0.1	0.1	
>100,000	0.16	0.31	0.27	
N	25,249	533,229	513,241	

Notes: This table reports socio-economic and socio-demographic characteristics of the population in Schleswig-Holstein and West Germany. "West" includes only West German federal states, without Schleswig-Holstein. "West*" further excludes the city-states of Hamburg and Bremen. ^a Based on information in 2008. ^b Based on German Federal Statistical Office (2010).

Source: Own calculations based on German Microcensus 2009 (RDC, 2019).

Table B.2: Logit estimation on pre-reform eligibility for paid parental leave 13-24 months

Independent variable	Coefficient	s.e.
Single mother	2.161***	(0.753)
Number of children	0.417**	(0.186)
Number of children × Single mother	-0.650*	(0.352)
Maternal educ. middle	-0.396	(0.740)
Maternal educ. high	-0.473	(0.793)
Paternal educ. middle	-0.204	(0.876)
Paternal educ. high	-1.115	(1.460)
Migration background	-0.006	(0.449)

Notes: This table reports logit estimation results of pre-reform eligibility (13-24 months) for paid parental leave before the reform in 2007. The sign of the coefficient estimates are consistent with the institutional rules: for instance, the probability for eligibility increases with the number of children and single motherhood, while it decreases with the education level of the parents. Robust standard errors are reported in parentheses.

** p < 0.01, ** p < 0.05, * p < 0.1.

Source: Own calculations based on SOEP v30.

Table B.3: Regression-discontinuity based specifications

			Sample	stratified by	maternal edu	cation		stratified by p		
	Al	11	Low		Н	igh	Previo eligi			iously igible
Specification:	β_{PPL}	s.e.	β_{PPL}	s.e.	β_{PPL}	s.e.	β_{PPL}	s.e.	β_{PPL}	s.e.
Dep. variables: Language skills										
RD analysis										
Linear, 6 Months-window	-0.0037	(0.0144)	-0.0020	(0.0212)	-0.0036	(0.0243)	0.0146	(0.0266)	-0.0108	(0.0255)
Linear, 4 Months-window	0.0207	(0.0181)	0.0252	(0.0267)	0.0207	(0.0307)	0.0444	(0.0337)	0.0278	(0.0320)
Linear, 2 Months-window	0.0196	(0.0304)	0.0690	(0.0445)	-0.0123	(0.0520)	0.0486	(0.0567)	-0.0191	(0.0540)
Second order polynomial	-0.0018	(0.0142)	0.0019	(0.0210)	-0.0073	(0.0241)	0.0177	(0.0263)	-0.0164	(0.0252)
Third order polynomial	0.0207	(0.0194)	0.0219	(0.0285)	0.0199	(0.0329)	0.0427	(0.0360)	0.0137	(0.0343)
Controlling for X-characteristics	0.0005	(0.0139)	0.0071	(0.0205)	-0.0100	(0.0241)	0.0174	(0.0257)	-0.0102	(0.0253)
Donut-RD analysis (excluding January	and February)								
Linear, 6 Months-window	-0.0267	(0.0209)	-0.0533	(0.0310)	-0.0123	(0.0352)	-0.0060	(0.0386)	-0.0309	(0.0373)
Linear, 4 Months-window	0.0143	(0.0332)	-0.0362	(0.0493)	0.0405	(0.0559)	0.0467	(0.0618)	0.0566	(0.0594)
Linear, 2 Months-window	-0.0407*	(0.0181)	-0.0713**	(0.0268)	-0.0336	(0.0315)	-0.0194	(0.0330)	-0.0186	(0.0335)
Second order polynomial	-0.0255	(0.0209)	-0.0503	(0.0309)	-0.0190	(0.0351)	-0.0012	(0.0383)	-0.0399	(0.0372)
Third order polynomial	0.0013	(0.0399)	-0.0913	(0.0591)	0.0444	(0.0678)	0.0437	(0.0733)	0.0170	(0.0721)
Controlling for X-characteristics	-0.0082	(0.0203)	-0.0311	(0.0303)	-0.0104	(0.0349)	0.0121	(0.0376)	-0.0266	(0.0369)
Difference-in-discontinuities	0.0002	(0.0203)	0.0511	(0.0505)	0.0104	(0.0547)	0.0121	(0.0370)	0.0200	(0.050))
Linear, 6 Months-window	0.0205	(0.0194)	0.0162	(0.0283)	0.0214	(0.0324)	0.0495	(0.0354)	-0.0260	(0.0340)
Linear, 4 Months-window	0.0118	(0.0219)	0.0102	(0.0203)	0.0339	(0.0362)	0.0368	(0.0334)	-0.0288	(0.0340)
Linear, 2 Months-window	-0.0002	(0.0219)	-0.0298	(0.0318)	0.0339	(0.0502)	-0.0012	(0.0568)	0.0200	(0.0533)
Linear, 6 Months-window w/o Dec/Jan	0.0127	(0.0308)	-0.0298	(0.0443)	0.0703	(0.0301)	0.0552	(0.0508)	-0.0516	(0.0333)
Linear, 4 Months-window w/o Dec/Jan Linear, 4 Months-window w/o Dec/Jan	-0.0035	(0.0280)	-0.0273	(0.0410)	0.0240	(0.0409)	0.0332	(0.0509)	-0.0316	(0.0493)
Linear, 2 Months-window w/o Dec/Jan Linear, 2 Months-window w/o Dec/Jan	-0.0055	(0.0304)	-0.0223	(0.0333)	-0.0020	(0.0362)	0.0485	(0.0381)	-0.0429	(0.0031)
D : 11 C :										
Dep. variables: Socio-emot. stability RD analysis										
Linear, 6 Months-window	-0.0308*	(0.0124)	-0.0257	(0.0185)	-0.0205	(0.0204)	-0.0484*	(0.0238)	-0.0417	(0.0214)
Linear, 4 Months-window	-0.0252	(0.0155)	-0.0086	(0.0230)	-0.0235	(0.0256)	-0.0602*	(0.0298)	-0.0239	(0.0263)
Linear, 2 Months-window	-0.0593*	(0.0255)	-0.0619	(0.0379)	-0.0443	(0.0430)	-0.0792	(0.0491)	-0.0658	(0.0432)
Second order polynomial	-0.0262*	(0.0233)	-0.0206	(0.0375)	-0.0163	(0.0202)	-0.0451	(0.0238)	-0.0363	(0.0212)
Third order polynomial	-0.0202	(0.0123)	-0.0234	(0.0165)	-0.0103	(0.0202)	-0.0771*	(0.0236)	-0.0281	(0.0212)
Controlling for X-characteristics	-0.0293*	(0.0100)	-0.0291	(0.0230)	-0.0277	(0.0203)	-0.0531*	(0.0320)	-0.0251	(0.0213)
Donut-RD analysis (excluding January			-0.0291	(0.0180)	-0.0182	(0.0203)	-0.0331**	(0.0234)	-0.0337	(0.0213)
Linear, 6 Months-window	-0.0095	(0.0179)	-0.0028	(0.0271)	-0.0090	(0.0297)	-0.0192	(0.0343)	-0.0215	(0.0315)
	0.0093		0.0707							
Linear, 4 Months-window		(0.0283)		(0.0427)	-0.0033	(0.0477)	-0.0382	(0.0539)	0.0530	(0.0486)
Linear, 2 Months-window	0.0019	(0.0153)	0.0139	(0.0233)	-0.0116	(0.0263)	-0.0165	(0.0287)	0.0114	(0.0267)
Second order polynomial	-0.0012	(0.0179)	0.0073	(0.0270)	-0.0039	(0.0295)	-0.0125	(0.0344)	-0.0135	(0.0312)
Third order polynomial	0.0142	(0.0341)	0.0578	(0.0514)	-0.0147	(0.0573)	-0.0589	(0.0645)	0.0650	(0.0587)
Controlling for X-characteristics	-0.0035	(0.0176)	-0.0044	(0.0265)	-0.0002	(0.0296)	-0.0195	(0.0338)	-0.0111	(0.0313)
Difference-in-discontinuities	0.0000	(0.0450)	0.0445		0.000	(0.0000)	0.050#:	(0.0000	0.0005	(0.000 ::
Linear, 6 Months-window	-0.0278	(0.0172)	-0.0145	(0.0255)	-0.0361	(0.0282)	-0.0637*	(0.0322)	-0.0337	(0.0304)
Linear, 4 Months-window	-0.0446*	(0.0195)	-0.0219	(0.0288)	-0.0595	(0.0322)	-0.0901*	(0.0367)	-0.0382	(0.0341)
Linear, 2 Months-window	-0.0843**	(0.0281)	-0.0560	(0.0411)	-0.0735	(0.0469)	-0.1884**	(0.0526)	-0.0163	(0.0481)
Linear, 6 Months-window w/o Dec/Jan	0.0041	(0.0248)	0.0089	(0.0371)	-0.0157	(0.0403)	-0.0165	(0.0460)	-0.0471	(0.0440)
Linear, 4 Months-window w/o Dec/Jan	0.0018	(0.0323)	0.0254	(0.0482)	-0.0497	(0.0531)	-0.0230	(0.0594)	-0.0523	(0.0570)
Linear, 2 Months-window w/o Dec/Jan	0.0080	(0.0185)	0.0196	(0.0276)	-0.0280	(0.0308)	-0.0055	(0.0341)	0.0002	(0.0323)

Notes: This table reports coefficient estimates of β_{PPL} of different regression models. The dependent variables is school readiness. The results are reported for the sample including all children, and subsamples stratified by mothers' education and predicted pre-reform eligibility. "Low & medium" education refers to lower and medium-secondary school certificates. "High" education refers to upper-secondary school certificates (*Abitur*). *Previously eligible* families likely received benefits 13-24 months after childbirth. *Previously ineligible* families were likely not eligible for parental leave benefits 6-12 months after childbirth (see Section 3.2). The regressions include county-by-examination year fixed effects. Robust standard errors are reported in parentheses. ** p < 0.01, * p < 0.05.

Source: Own calculations based on school entrance examinations for Schleswig-Holstein for children born

between July 2005 and June 2007.

Table B.4: Regression-discontinuity based specifications

Specification: β _{PPL} s.e. β _{PPL} s.e. β _{PPL} Dep. variables: Motor skills RD analysis s.e. s.e. s.e. β _{PPL} Linear, 6 Months-window 0.0046 (0.0120) 0.0307 (0.0179) -0.0431* Linear, 4 Months-window 0.0168 (0.0150) 0.0496* (0.0223) -0.0439 Linear, 2 Months-window 0.0053 (0.0252) 0.0546 (0.0178) -0.0450* Second order polynomial 0.0067 (0.0119) 0.0356* (0.0178) -0.0450* Third order polynomial 0.00124 (0.0162) 0.0449 (0.0239) -0.0450* Donut-RD analysis (excluding January and February) Linear, 6 Months-window 0.0048 (0.0173) 0.0107 (0.0264) -0.0215 Linear, 6 Months-window 0.0349 (0.0273) 0.0354 (0.0417) -0.0215 Linear, 2 Months-window 0.0348 (0.0173) 0.0137 (0.0244) -0.0215 Second order polynomial 0.0098 (0.0174) 0.0163 (0	s.e.	Previous			enefits
Dep. variables: Motor skills RD analysis	s.e.		ly eligible	Previousl	y ineligible
RĎ analysis Linear, 6 Months-window 0.0046 (0.0120) 0.0307 (0.0179) -0.043* Linear, 6 Months-window 0.0168 (0.0150) 0.0496* (0.0223) -0.043* Linear, 2 Months-window 0.0053 (0.0252) 0.0546 (0.0378) -0.0580 Second order polynomial 0.0067 (0.0119) 0.0356* (0.0178) -0.0450* Third order polynomial 0.0124 (0.0162) 0.049 (0.023) -0.0420* Controlling for X-characteristics 0.0051 (0.0117) 0.0300 (0.0175) -0.0420* Donut-RD analysis (excluding January and Februsty) Linear, 4 Months-window 0.0349 (0.0273) 0.0107 (0.0264) -0.0215 Linear, 2 Months-window 0.0349 (0.0273) 0.0354 (0.0417) -0.0028 Linear, 2 Months-window -0.0138 (0.0174) -0.0163 (0.0264) -0.0121 Second order polynomial 0.0029 (0.0174) -0.0163 (0.0265) -0.0213 <t< th=""><th></th><th>β_{PPL}</th><th>s.e.</th><th>β_{PPL}</th><th>s.e.</th></t<>		β_{PPL}	s.e.	β_{PPL}	s.e.
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Linear, 4 Months-window 0.0168 (0.0150) 0.0496* (0.0223) -0.0439 Linear, 2 Months-window 0.0053 (0.0252) 0.0546 (0.0378) -0.0580 Second order polynomial 0.0067 (0.0119) 0.0356* (0.0178) -0.0450* Third order polynomial 0.0124 (0.0162) 0.0449 (0.0239) -0.0490* Controlling for X-characteristics 0.0051 (0.0117) 0.0300 (0.0175) -0.0420* Donut-RD analysis (excluding January and February) Image February					
Linear, 2 Months-window 0.0053 (0.0252) 0.0546 (0.0378) -0.0580 Second order polynomial 0.0067 (0.0119) 0.0356* (0.0178) -0.0450* Third order polynomial 0.0124 (0.0162) 0.0449 (0.0239) -0.0490* Controlling for X-characteristics 0.0051 (0.0117) 0.0300 (0.0175) -0.0420* Donut-RD analysis (excluding January and Februszy) Linear, A Months-window 0.0349 (0.0273) 0.0354 (0.0417) -0.0028 Linear, 2 Months-window -0.0138 (0.0173) 0.0107 (0.0264) -0.0215 Linear, 2 Months-window -0.0138 (0.0174) -0.0163 (0.0264) -0.0215 Linear, 2 Months-window -0.0138 (0.0174) -0.0163 (0.0265) -0.0213 Third order polynomial 0.0082 (0.0174) -0.0163 (0.0265) -0.0213 Controlling for X-characteristics 0.0098 (0.0170) 0.0131 (0.0259) -0.0197 Difference-in-discontinuitise	(0.0195)	0.0240	(0.0229)	-0.0095	(0.0212)
Second order polynomial 0.0067 (0.0119) 0.0356* (0.0178) -0.0450* Third order polynomial 0.0124 (0.0162) 0.0449 (0.0239) -0.0490 Controlling for X-characteristics 0.0051 (0.017) 0.0300 (0.0175) -0.0420* Donut-RD analysis (excluding January and February) Linear, 6 Months-window 0.0048 (0.0173) 0.0107 (0.0264) -0.0215 Linear, 2 Months-window 0.0349 (0.0273) 0.0354 (0.0417) -0.0028 Linear, 2 Months-window -0.0138 (0.0151) -0.0137 (0.0233) -0.0452 Second order polynomial 0.0082 (0.0174) 0.0163 (0.0265) -0.0213 Third order polynomial 0.0297 (0.0332) 0.0031 (0.0506) 0.0121 Controlling for X-characteristics 0.0098 (0.0170) 0.0131 (0.0259) -0.0197 Difference-in-discontinuitse Linear, 6 Months-window 0.0260 (0.0165) 0.0413 (0.0243) -0.0024<	(0.0243)	0.0263	(0.0290)	-0.0203	(0.0262)
Third order polynomial 0.0124 (0.0162) 0.0449 (0.0239) -0.0490 Controlling for X-characteristics 0.0051 (0.0117) 0.0300 (0.0175) -0.0420* Donut-RD analysis (excluding January and February: Linear, 6 Months-window 0.0048 (0.0173) 0.0107 (0.0264) -0.0215 Linear, 4 Months-window 0.0349 (0.0273) 0.0354 (0.0417) -0.0028 Linear, 2 Months-window -0.0138 (0.0151) -0.0137 (0.0233) -0.0452 Second order polynomial 0.0082 (0.0174) 0.0163 (0.0265) -0.0213 Third order polynomial 0.0082 (0.0174) 0.0163 (0.0265) -0.0213 Third order polynomial 0.0098 (0.0170) 0.0131 (0.0259) -0.0197 Difference-in-discontinuities Linear, 6 Months-window 0.0260 (0.0165) 0.0413 (0.0243) -0.0024 Linear, 4 Months-window 0.0230 (0.0186) 0.0455 (0.0272) -0.0028 Linear, 4 Months-window 0.0281 (0.0263) 0.0618 (0.0382) -0.0146 Linear, 6 Months-window w/o Dec/Jan 0.0158 (0.0239) 0.0119 (0.0357) 0.0050 Linear, 4 Months-window w/o Dec/Jan 0.0053 (0.0311) -0.0013 (0.0463) 0.0187 Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.0005 (0.0270) -0.0027 Dep. variables: School readiness RD analysis Linear, 6 Months-window -0.0077 (0.0115) -0.0016 (0.0174) -0.0061	(0.0406)	0.0137	(0.0490)	-0.0490	(0.0433)
Controlling for X-characteristics 0.0051 (0.0117) 0.0300 (0.0175) -0.0420* Donut-RD analysis (excluding January am February) and February and February 1 0.0107 (0.0264) -0.0215 Linear, 4 Months-window 0.0048 (0.0173) 0.0354 (0.0417) -0.0028 Linear, 2 Months-window -0.0138 (0.0151) -0.0137 (0.0233) -0.0452 Second order polynomial 0.0082 (0.0174) -0.0163 (0.0256) -0.0213 Third order polynomial 0.0297 (0.0332) 0.0031 (0.0506) 0.0121 Controlling for X-characteristics 0.0098 (0.0170) 0.0131 (0.0259) -0.0197 Difference-in-discontinuities Linear, 6 Months-window 0.0260 (0.0165) 0.0413 (0.0243) -0.0024 Linear, 4 Months-window 0.0230 (0.0186) 0.0455 (0.0272) -0.0028 Linear, 2 Months-window w/o Dec/Jan 0.018 (0.0239) 0.0119 (0.0357) 0.0050 Linear, 4 Months-window w/o Dec/Jan <td>(0.0196)</td> <td>0.0262</td> <td>(0.0228)</td> <td>-0.0124</td> <td>(0.0212)</td>	(0.0196)	0.0262	(0.0228)	-0.0124	(0.0212)
Donut-RD analysis (excluding January and February: Linear, 6 Months-window 0.0048 (0.0173) 0.0107 (0.0264) -0.0215 Linear, 6 Months-window 0.0349 (0.0273) 0.0354 (0.0417) -0.0028 Linear, 2 Months-window -0.0138 (0.0151) -0.0137 (0.0233) -0.0452 Second order polynomial 0.0082 (0.0174) 0.0163 (0.0265) -0.0213 Third order polynomial 0.0297 (0.0332) 0.0031 (0.0566) 0.0121 Controlling for X-characteristics 0.0098 (0.0170) 0.0131 (0.0259) -0.0197 Difference-in-discontinuities Linear, 6 Months-window 0.0260 (0.0165) 0.0413 (0.0243) -0.0024 Linear, 4 Months-window 0.0230 (0.0186) 0.0455 (0.0272) -0.0028 Linear, 2 Months-window w/o Dec/Jan 0.0158 (0.0239) 0.0119 (0.0357) 0.0050 Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.0013 (0.0463) 0.0187<	(0.0271)	0.0150	(0.0312)	-0.0226	(0.0286)
Linear, 6 Months-window 0.0048 (0.0173) 0.0107 (0.0264) -0.0215 Linear, 4 Months-window 0.0349 (0.0273) 0.0354 (0.0417) -0.0028 Linear, 2 Months-window -0.0138 (0.0151) -0.0137 (0.0233) -0.0452 Second order polynomial 0.0082 (0.0174) 0.0163 (0.0265) -0.0213 Third order polynomial 0.0297 (0.0332) 0.0031 (0.0506) 0.0121 Controlling for X-characteristics 0.0098 (0.0170) 0.0131 (0.0259) -0.0197 Difference-in-discontinuities Linear, 6 Months-window 0.0260 (0.0165) 0.0413 (0.0243) -0.0024 Linear, 2 Months-window 0.0230 (0.0186) 0.0455 (0.0272) -0.0028 Linear, 2 Months-window w/o Dec/Jan 0.0158 (0.0239) 0.0119 (0.0357) 0.0050 Linear, 4 Months-window w/o Dec/Jan 0.0063 (0.0311) -0.0013 (0.0463) 0.0187 Linear, 2 Months-window w/o Dec/Jan 0.0057 <td>(0.0193)</td> <td>0.0201</td> <td>(0.0226)</td> <td>-0.0011</td> <td>(0.0208)</td>	(0.0193)	0.0201	(0.0226)	-0.0011	(0.0208)
Linear, 4 Months-window 0.0349 (0.0273) 0.0354 (0.0417) -0.0028 Linear, 2 Months-window -0.0138 (0.0151) -0.0137 (0.0233) -0.0452 Second order polynomial 0.0082 (0.0174) 0.0163 (0.0265) -0.0213 Third order polynomial 0.0297 (0.0332) 0.0031 (0.0506) 0.0121 Controlling for X-characteristics 0.0098 (0.0170) 0.0131 (0.0259) -0.0197 Difference-in-discontinuities Linear, 6 Months-window 0.0260 (0.0165) 0.0413 (0.0243) -0.0024 Linear, 4 Months-window 0.0230 (0.0186) 0.0455 (0.0272) -0.0028 Linear, 2 Months-window w/o Dec/Jan 0.0158 (0.0239) 0.0119 (0.0357) 0.0050 Linear, 4 Months-window w/o Dec/Jan 0.0063 (0.0311) -0.0013 (0.0463) 0.0187 Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.00013 (0.0463) 0.0187 Linear, 2 Months-window w/o Dec/Jan <					
Linear, 2 Months-window -0.0138 (0.0151) -0.0137 (0.0233) -0.0452 Second order polynomial 0.0082 (0.0174) 0.0163 (0.0265) -0.0213 Third order polynomial 0.0297 (0.0332) 0.0031 (0.0265) -0.0197 Controlling for X-characteristics 0.0098 (0.0170) 0.0131 (0.0259) -0.0197 Difference-in-discontinuities Linear, 6 Months-window 0.0260 (0.0165) 0.0413 (0.0243) -0.0024 Linear, 2 Months-window 0.0230 (0.0186) 0.0455 (0.0272) -0.0028 Linear, 2 Months-window w/o Dec/Jan 0.0158 (0.0239) 0.0119 (0.0382) -0.0146 Linear, 4 Months-window w/o Dec/Jan 0.0063 (0.0311) -0.0013 (0.0463) 0.0187 Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.0005 (0.0270) -0.0027	(0.0279)	0.0326	(0.0328)	0.0201	(0.0314)
Second order polynomial 0.0082 (0.0174) 0.0163 (0.0265) -0.0213 Third order polynomial 0.0297 (0.0332) 0.0031 (0.0506) 0.0121 Controlling for X-characteristics 0.0098 (0.0170) 0.0131 (0.0259) -0.0197 Difference-in-discontinuities Linear, 6 Months-window 0.0260 (0.0165) 0.0413 (0.0243) -0.0024 Linear, 2 Months-window 0.0230 (0.0186) 0.0455 (0.0272) -0.0028 Linear, 2 Months-window 0.0281 (0.0263) 0.0618 (0.0382) -0.0146 Linear, 6 Months-window w/o Dec/Jan 0.0158 (0.0239) 0.0119 (0.0357) 0.0050 Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.0005 (0.0270) -0.0027 Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.0005 (0.0270) -0.0027	(0.0431)	0.0393	(0.0522)	0.0286	(0.0490)
Third order polynomial 0.0297 (0.0332) 0.0031 (0.0506) 0.0121 (Ontrolling for X-characteristics 0.0098 (0.0170) 0.0131 (0.0259) -0.0197 Difference-in-discontinuities Linear, 6 Months-window 0.0260 (0.0165) 0.0413 (0.0243) -0.0024 (0.0170) 0.0186 (0.0272) -0.0028 (0.0186) 0.0455 (0.0272) -0.0028 (0.0186) 0.0455 (0.0272) -0.0028 (0.0186) 0.0455 (0.0272) -0.0186 (0.0281) 0.0189 (0.0382) -0.0146 (0.0382) -0.0146 (0.0382) -0.0146 (0.0382) -0.0146 (0.0382) -0.0146 (0.0382) -0.0145 (0.0273) (0.0573) (0.0506) (0.0710) (0.0573) (0.0506) (0.0710) (0.0710) (0.0710) (0.0710) (0.0710) (0.0710) (0.0710) (0.0710) (0.0710) (0.0710) (0.0710) (0.0710) (0.0710) (0.0710) (0.0710) (0.0710) (0.0710) (0.00110	(0.0240)	-0.0040	(0.0284)	-0.0278	(0.0275)
Controlling for X-characteristics 0.0098 (0.0170) 0.0131 (0.0259) -0.0197 Difference-in-discontinuities Linear, 6 Months-window 0.0260 (0.0165) 0.0413 (0.0243) -0.0024 Linear, 2 Months-window 0.0230 (0.0186) 0.0455 (0.0272) -0.0028 Linear, 2 Months-window 0.0281 (0.0263) 0.0618 (0.0382) -0.0146 Linear, 6 Months-window w/o Dec/Jan 0.0158 (0.0239) 0.0119 (0.0357) 0.0050 Linear, 2 Months-window w/o Dec/Jan 0.0063 (0.0311) -0.0013 (0.0463) 0.0187 Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.0005 (0.0270) -0.0027 Dep. variables: School readiness RD analysis Linear, 6 Months-window -0.0077 (0.0115) -0.0016 (0.0174) -0.0061	(0.0281)	0.0371	(0.0330)	0.0153	(0.0316)
Difference-in-discontinuities Linear, 6 Months-window 0.0260 (0.0165) 0.0413 (0.0243) -0.0024 Linear, 2 Months-window 0.0230 (0.0186) 0.0455 (0.0272) -0.0028 Linear, 2 Months-window 0.0281 (0.0263) 0.0618 (0.0382) -0.0146 Linear, 6 Months-window w/o Dec/Jan 0.0158 (0.0239) 0.0119 (0.0357) 0.0050 Linear, 2 Months-window w/o Dec/Jan 0.0063 (0.0311) -0.0013 (0.0463) 0.0187 Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.0005 (0.0270) -0.0027 Dep. variables: School readiness RD analysis Linear, 6 Months-window -0.0077 (0.0115) -0.0016 (0.0174) -0.0061	(0.0531)	0.0222	(0.0630)	0.0372	(0.0598)
Linear, 6 Months-window 0.0260 (0.0165) 0.0413 (0.0243) -0.0024 Linear, 4 Months-window 0.0230 (0.0186) 0.0455 (0.0272) -0.0028 Linear, 2 Months-window 0.0281 (0.0263) 0.0618 (0.0382) -0.0146 Linear, 6 Months-window w/o Dec/Jan 0.0158 (0.0239) 0.0119 (0.0357) 0.0050 Linear, 4 Months-window w/o Dec/Jan 0.0063 (0.0311) -0.0013 (0.0463) 0.0187 Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.0005 (0.0270) -0.0027 Dep. variables: School readiness RD analysis -0.0016 (0.0174) -0.0061	(0.0274)	0.0287	(0.0323)	0.0364	(0.0307)
Linear, 4 Months-window 0.0230 (0.0186) 0.0455 (0.0272) -0.0028 Linear, 2 Months-window 0.0281 (0.0263) 0.0618 (0.0382) -0.0146 Linear, 6 Months-window w/o Dec/Jan 0.0158 (0.0239) 0.0119 (0.0357) 0.0050 Linear, 4 Months-window w/o Dec/Jan 0.0063 (0.0311) -0.0013 (0.0463) 0.0187 Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.0005 (0.0270) -0.0027 Dep. variables: School readiness RB analysis Linear, 6 Months-window -0.0077 (0.0115) -0.0016 (0.0174) -0.0061					
Linear, 4 Months-window 0.0230 (0.0186) 0.0455 (0.0272) -0.0028 Linear, 2 Months-window 0.0281 (0.0263) 0.0618 (0.0382) -0.0146 Linear, 6 Months-window w/o Dec/Jan 0.0158 (0.0239) 0.0119 (0.0357) 0.0050 Linear, 4 Months-window w/o Dec/Jan 0.0063 (0.0311) -0.0013 (0.0463) 0.0187 Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.0005 (0.0270) -0.0027 Dep. variables: School readiness RB analysis Linear, 6 Months-window -0.0077 (0.0115) -0.0016 (0.0174) -0.0061	(0.0272)	0.0458	(0.0308)	0.0019	(0.0301)
Linear, 6 Months-window w/o Dec/Jan 0.0158 (0.0239) 0.0119 (0.0357) 0.0050 Linear, 4 Months-window w/o Dec/Jan 0.0063 (0.0311) -0.0013 (0.0463) 0.0187 Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.0005 (0.0270) -0.0027 Dep. variables: School readiness RD analysis Linear, 6 Months-window -0.0077 (0.0115) -0.0016 (0.0174) -0.0061	(0.0306)	0.0259	(0.0346)	-0.0085	(0.0339)
Linear, 6 Months-window w/o Dec/Jan 0.0158 (0.0239) 0.0119 (0.0357) 0.0050 Linear, 4 Months-window w/o Dec/Jan 0.0063 (0.0311) -0.0013 (0.0463) 0.0187 Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.0005 (0.0270) -0.0027 Dep. variables: School readiness RD analysis Linear, 6 Months-window -0.0077 (0.0115) -0.0016 (0.0174) -0.0061	(0.0428)	0.0299	(0.0488)	0.0349	(0.0487)
Linear, 4 Months-window w/o Dec/Jan 0.0063 (0.0311) -0.0013 (0.0463) 0.0187 Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.0005 (0.0270) -0.0027 Dep. variables: School readiness RD analysis Linear, 6 Months-window -0.0077 (0.0115) -0.0016 (0.0174) -0.0061	(0.0389)	0.0374	(0.0441)	0.0286	(0.0441)
Linear, 2 Months-window w/o Dec/Jan 0.0057 (0.0181) 0.0005 (0.0270) -0.0027 Dep. variables: School readiness RD analysis Linear, 6 Months-window -0.0077 (0.0115) -0.0016 (0.0174) -0.0061	(0.0510)	-0.0016	(0.0569)	-0.0109	(0.0578)
RD analysis Linear, 6 Months-window -0.0077 (0.0115) -0.0016 (0.0174) -0.0061	(0.0297)	0.0127	(0.0332)	-0.0024	(0.0342)
Linear, 6 Months-window -0.0077 (0.0115) -0.0016 (0.0174) -0.0061					
Time 4 Manufacture 1 - 1 - 0 0001 (0 0144) 0 0101 (0 0017) 0 0171	(0.0156)	-0.0083	(0.0245)	-0.0158	(0.0159)
Linear, 4 Months-window 0.0061 (0.0144) 0.0191 (0.0217) -0.0171	(0.0195)	0.0036	(0.0309)	-0.0251	(0.0192)
Linear, 2 Months-window 0.0066 (0.0242) 0.0227 (0.0364) -0.0126	(0.0324)	0.0344	(0.0519)	-0.0401	(0.0308)
Second order polynomial -0.0026 (0.0114) 0.0050 (0.0172) -0.0018	(0.0154)	-0.0045	(0.0243)	-0.0105	(0.0157)
Third order polynomial 0.0004 (0.0156) 0.0107 (0.0234) -0.0099	(0.0211)	-0.0157	(0.0335)	-0.0230	(0.0208)
Controlling for X-characteristics -0.0024 (0.0110) 0.0035 (0.0166) -0.0052	(0.0152)	-0.0052	(0.0237)	-0.0117	(0.0156)
Donut-RD analysis (excluding January and February)					
Linear, 6 Months-window -0.0091 (0.0165) -0.0140 (0.0250) 0.0072	(0.0227)	-0.0186	(0.0347)	0.0002	(0.0245)
Linear, 4 Months-window 0.0161 (0.0257) 0.0182 (0.0391) -0.0097	(0.0356)	-0.0253	(0.0544)	-0.0102	(0.0373)
Linear, 2 Months-window -0.0092 (0.0140) -0.0168 (0.0214) -0.0125	(0.0187)	-0.0390	(0.0300)	-0.0122	(0.0202)
Second order polynomial 0.0004 (0.0165) -0.0021 (0.0251) 0.0138	(0.0226)	-0.0096	(0.0348)	0.0049	(0.0244)
Third order polynomial 0.0154 (0.0313) 0.0025 (0.0477) 0.0212	(0.0431)	-0.0651	(0.0662)	-0.0087	(0.0455)
Controlling for X-characteristics 0.0049 (0.0159) -0.0001 (0.0241) 0.0129	(0.0224)	-0.0090	(0.0336)	0.0071	(0.0242)
Difference-in-discontinuities			. ,		. /
Linear, 6 Months-window -0.0076 (0.0159) -0.0075 (0.0236) -0.0180	(0.0221)	-0.0005	(0.0332)	-0.0175	(0.0222)
Linear, 4 Months-window -0.0232 (0.0179) -0.0168 (0.0266) -0.0218	(0.0256)	-0.0394	(0.0375)	-0.0199	(0.0249)
Linear, 2 Months-window -0.0475 (0.0256) -0.0434 (0.0377) -0.0654	(0.0375)	-0.0885	(0.0530)	-0.0212	(0.0354)
Linear, 6 Months-window w/o Dec/Jan -0.0104 (0.0227) -0.0242 (0.0341) 0.0024	(0.0310)	-0.0004	(0.0330)	-0.0212	(0.0331)
Linear, 4 Months-window w/o Dec/Jan -0.0243 (0.0227) -0.0326 (0.0440) 0.0267	(0.0310)	-0.0593	(0.0473)	-0.0070	(0.0331)
Linear, 2 Months-window w/o Dec/Jan 0.0036 (0.0168) -0.0004 (0.0252) 0.0112	(0.0402)	-0.0075	(0.0354)	0.0102	(0.0423)

Notes: This table reports coefficient estimates of β_{PPL} of different regression models. The dependent variables is school readiness. The results are reported for the sample including all children, and subsamples stratified by mothers' education and predicted pre-reform eligibility. "Low & medium" education refers to lower and medium-secondary school certificates. "High" education refers to upper-secondary school certificates (Abitur). Previously eligible families likely received benefits 13-24 months after childbirth. Previously ineligible families were likely not eligible for parental leave benefits 6-12 months after childbirth (see Section 3.2). The regressions include county-by-examination year fixed effects. Robust standard errors are reported in parentheses. ** p < 0.01, * p < 0.05.

are reported in parentheses. ** p < 0.01, * p < 0.05. Source: Own calculations based on school entrance examinations for Schleswig-Holstein for children born between July 2005 and June 2007.

Table B.5: Estimation results for children with low and medium educated mothers separately

	(1) (2) (3) Maternal education				
_	Low/med.	Low	Medium		
Language skills	-0.0219	-0.0310	-0.0161		
	(0.0152)	(0.0265)	(0.0185)		
	[0.1321]	[0.1437]	[0.1044]		
Socio-emotional stability	-0.0065	0.0015	-0.0123		
	(0.0139)	(0.0248)	(0.0167)		
	[0.0978]	[0.1080]	[0.0872]		
Motor skills	-0.0103	-0.0181	-0.0076		
	(0.0132)	(0.0238)	(0.0157)		
	[0.0879]	[0.0846]	[0.0865]		
School readiness	0.0097	-0.0089	0.0194		
	(0.0126)	(0.0242)	(0.0142)		
	[0.1177]	[0.1196]	[0.0864]		
N	14,610	5,146	9,464		

Notes: This table reports the coefficient estimates of the parental leave reform effect (β_{PPL}) on child outcomes. All regressions are based on the main equation and include examination year-by-county fixed effects, birth month fixed effects, birth cohort fixed effects and dummies for missing variables, as well as controls for child and family characteristics. Robust standard errors are reported in parentheses. R^2 are reported in brackets. ** p < 0.01, * p < 0.05.

Table B.6: Heterogeneity analysis by gender, parental education and pre-reform eligibility - interacted models

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
		Moth			Fathers'		Predicted eligibility for	
		educa	ition	educa	ation	parental lea	ave benefits	
						Previously	Previously	
	All	Low/med.	High	Low/med.	High	eligible	ineligible	
Language skills								
Reform · Girls	0.0096	-0.0181	0.0229	0.0028	-0.0023	0.0181	0.0200	
	(0.0119)	(0.0176)	(0.0201)	(0.0186)	(0.0202)	(0.0218)	(0.0213)	
Reform · Boys	-0.0133	-0.0255	-0.0116	-0.0168	-0.0303	-0.0009	-0.0125	
	(0.0121)	(0.0177)	(0.0211)	(0.0187)	(0.0212)	(0.0224)	(0.0225)	
Socio-emo. stability								
Reform · Girls	-0.0029	-0.0100	0.0144	-0.0115	0.0097	-0.0302	0.0013	
	(0.0105)	(0.0157)	(0.0171)	(0.0165)	(0.0169)	(0.0201)	(0.0184)	
Reform · Boys	-0.0012	-0.0033	-0.0002	-0.0182	0.0148	-0.0136	-0.0023	
	(0.0112)	(0.0165)	(0.0187)	(0.0174)	(0.0185)	(0.0210)	(0.0203)	
Motor skills								
Reform · Girls	0.0013	-0.0000	0.0171	0.0107	-0.0039	-0.0161	0.0087	
	(0.0097)	(0.0145)	(0.0157)	(0.0149)	(0.0163)	(0.0184)	(0.0176)	
Reform · Boys	-0.0150	-0.0201	-0.0223	-0.0293	-0.0161	-0.0090	-0.0047	
	(0.0111)	(0.0162)	(0.0189)	(0.0171)	(0.0189)	(0.0207)	(0.0206)	
School readiness								
Reform · Girls	0.0242	0.0222	0.0271	0.0231	0.0273	0.0128	0.0409	
	(0.0292)	(0.0239)	(0.0227)	(0.0243)	(0.0231)	(0.0297)	(0.0327)	
Reform · Boys	0.0003	-0.0021	-0.0005	-0.0168	0.0135	0.0064	0.0007	
	(0.0202)	(0.0253)	(0.0250)	(0.0259)	(0.0254)	(0.0211)	(0.0259)	
N	28,987	14,610	9,072	13,027	9,069	8,458	7,849	

Notes: This table reports the estimation results of the parental leave reform on child outcomes on samples stratified by different definitions of parental education, and pre-reform eligibility for parental leave benefits. The reform indicator is interacted with dummies indicating girls and boys. All regressions include examination year-by-county fixed effects, birth month fixed effects, birth cohort fixed effects, dummies for missing variables and control variables for child and family characteristics. The stratification in columns 6 and 7 is based on pre-reform eligibility predictions for parents who were likely *previously eligible* for parental leave benefits 13-24 months after childbirth. *Previously ineligible* parents were likely not eligible for parental leave benefits 6-12 months after childbirth. Robust standard errors are reported in parentheses. ** p < 0.01, * p < 0.05.

Table B.7: Effect heterogeneity on further child outcomes by number of children

	(1)	(2)	(3)	(4)	(5)		
	Dep. variable: School readiness						
					ligibility for ave benefits		
	All	Low/med.	High	Previously eligible	Previously ineligible		
Heterogeneity by number of childre	n						
Language skills							
PPL reform effect · Single child	0.0044	0.0041	-0.0031	0.0106	0.0014		
_	(0.0146)	(0.0214)	(0.0263)	(0.0252)	(0.0243)		
PPL reform effect · More children	-0.0037	-0.0289	0.0077	0.0057	0.0039		
	(0.0110)	(0.0161)	(0.0188)	(0.0205)	(0.0207)		
Socio-emo. stability							
PPL reform effect · Single child	0.0017	0.0077	0.0128	-0.0275	-0.0101		
	(0.0135)	(0.0198)	(0.0226)	(0.0241)	(0.0216)		
PPL reform effect · More children	-0.0044	-0.0098	0.0028	-0.0261	0.0043		
	(0.0099)	(0.0147)	(0.0164)	(0.0189)	(0.0183)		
Motor skills							
PPL reform effect · Single child	-0.0065	-0.0033	0.0141	-0.0219	0.0138		
	(0.0131)	(0.0192)	(0.0228)	(0.0230)	(0.0215)		
PPL reform effect · More children	-0.0089	-0.0152	-0.0056	-0.0161	-0.0044		
	(0.0094)	(0.0139)	(0.0158)	(0.0180)	(0.0180)		
School readiness							
PPL reform effect · Single child	0.0215	0.0341	0.0229	-0.0032	0.0331		
	(0.0120)	(0.0274)	(0.0181)	(0.0236)	(0.0263)		
PPL reform effect · More children	0.0089	0.0014	0.0094	0.0127	0.0132		
	(0.0089)	(0.0134)	(0.0126)	(0.0188)	(0.0136)		

Table B.8: Effect heterogeneity on further child outcomes by day care availability

	(1)	(2)	(3)	(4)	(5)		
		Dep. variable: School readiness					
			Mothers' education		ligibility for ave benefits		
	All	Low/med.	High	Previously eligible	Previously ineligible		
Heterogeneity by share of children below	age 3 in da	y care (count	y-year level	, min. 8%, mc	ax. 27%)		
Language skills							
PPL reform effect	-0.0012	-0.0213	0.0114	0.0039	0.0086		
	(0.0104)	(0.0152)	(0.0186)	(0.0198)	(0.0195)		
PPL reform effect · childcare share in %	-0.0038	-0.0024	-0.0048	-0.0047	-0.0043		
	(0.0020)	(0.0031)	(0.0041)	(0.0033)	(0.0043)		
Socio-emotional stability							
PPL reform effect	-0.0020	-0.0072	0.0114	-0.0249	-0.0053		
	(0.0094)	(0.0139)	(0.0159)	(0.0185)	(0.0170)		
PPL reform effect · childcare share in %	0.0002	0.0033	-0.0035	-0.0029	0.0041		
	(0.0017)	(0.0026)	(0.0032)	(0.0031)	(0.0033)		
Motor skills							
PPL reform effect	-0.0069	-0.0109	-0.0003	-0.0166	0.0011		
	(0.0090)	(0.0132)	(0.0153)	(0.0173)	(0.0169)		
PPL reform effect · childcare share in %	-0.0004	0.0031	-0.0023	-0.0044	0.0005		
	(0.0016)	(0.0025)	(0.0030)	(0.0029)	(0.0035)		

Table B.9: Effect heterogeneity on further child outcomes by female labour force participation

	(1)	(2)	(3)	(4)	(5)		
		Dep. variable: School readiness					
		Mothers' education		Predicted eligibility f parental leave benefi			
	All	Low/med.	High	Previously eligible	Previously ineligible		
Heterogeneity by female labour force partic	ipation rate	(county leve	l, 2011, min	70%, max. 7	79%)		
Language skills							
PPL reform effect	-0.0024	-0.0221	0.0064	0.0142	0.0056		
	(0.0104)	(0.0152)	(0.0180)	(0.0197)	(0.0191)		
PPL reform effect · female LFP share in %	-0.0033	-0.0050	-0.0025	0.0069	-0.0041		
	(0.0026)	(0.0037)	(0.0045)	(0.0053)	(0.0048)		
Socio-emotional stability							
PPL reform effect	-0.0018	-0.0065	0.0062	-0.0160	-0.0029		
	(0.0094)	(0.0139)	(0.0155)	(0.0185)	(0.0168)		
PPL reform effect · female LFP share in %	0.0020	0.0008	0.0014	0.0069	0.0039		
	(0.0023)	(0.0032)	(0.0038)	(0.0049)	(0.0040)		
Motor skills			, , ,	,	, , , ,		
PPL reform effect	-0.0070	-0.0103	-0.0014	-0.0094	0.0001		
	(0.0090)	(0.0132)	(0.0152)	(0.0173)	(0.0168)		
PPL reform effect · female LFP share in %	-0.0001	0.0002	-0.0036	0.0036	0.0029		
	(0.0022)	(0.0032)	(0.0036)	(0.0047)	(0.0041)		

Table B.10: Effect heterogeneity on further child outcomes by paternal leave share

	(1)	(2)	(3)	(4)	(5)			
	Dep. variable: School readiness							
		Mothers' education			ligibility for ave benefits			
	All	Low/med.	High	Previously eligible	Previously ineligible			
Heterogeneity by share of fathers taking paren	tal leave (c	ounty level, 2	2008, min. 5	.8%, max. 13.	3%)			
Language skills								
PPL reform effect	-0.0026	-0.0218	0.0052	0.0088	0.0026			
	(0.0104)	(0.0153)	(0.0179)	(0.0191)	(0.0190)			
PPL reform effect · paternal leave share in %	-0.0040	0.0003	-0.0062	-0.0142	-0.0100			
	(0.0046)	(0.0067)	(0.0071)	(0.0092)	(0.0079)			
Socio-emotional stability								
PPL reform effect	-0.0020	-0.0055	0.0069	-0.0214	-0.0005			
	(0.0094)	(0.0140)	(0.0157)	(0.0178)	(0.0170)			
PPL reform effect · paternal leave share in %	-0.0005	0.0039	0.0008	-0.0133	0.0024			
•	(0.0039)	(0.0056)	(0.0064)	(0.0083)	(0.0070)			
Motor skills	,	,	,	, ,	,			
PPL reform effect	-0.0070	-0.0094	-0.0032	-0.0121	0.0016			
	(0.0090)	(0.0132)	(0.0151)	(0.0168)	(0.0166)			
PPL reform effect · paternal leave share in %	0.0001	0.0035	0.0030	-0.0118	-0.0030			
•	(0.0039)	(0.0058)	(0.0061)	(0.0081)	(0.0071)			

Table B.11: Effect heterogeneity on further child outcomes by population density in the area

	(1)	(2) Dep. var	(3) riable: Scho	(4) ol readiness	(5)
		Mothers' education		Predicted e	ligibility for ave benefits
	All	Low/med.	High	Previously eligible	Previously ineligible
Heterogeneity by population	n density (co	ounty level, 2	006, rural ij	$f \le 125$ inhab	itants/km ²)
Language skills					
PPL reform effect · rural	0.0406	0.0348	0.0549	0.0311	0.0687
	(0.0371)	(0.0256)	(0.0361)	(0.0290)	(0.0373)
PPL reform effect · urban	-0.0134	-0.0317	-0.0039	-0.0033	-0.0087
	(0.0114)	(0.0167)	(0.0188)	(0.0228)	(0.0200)
Socio-emotional stability					
PPL reform effect · rural	-0.0007	-0.0158	0.0213	0.0274	0.0034
	(0.0151)	(0.0228)	(0.0297)	(0.0267)	(0.0308)
PPL reform effect · urban	-0.0018	-0.0021	0.0034	-0.0321	-0.0012
	(0.0103)	(0.0151)	(0.0165)	(0.0210)	(0.0179)
Motor skills	,	,	,	` ,	` ,
PPL reform effect · rural	-0.0063	-0.0321	0.0352	0.0224	-0.0306
	(0.0144)	(0.0215)	(0.0282)	(0.0255)	(0.0307)
PPL reform effect · urban	-0.0053	-0.0013	-0.0090	-0.0209	0.0070
	(0.0098)	(0.0145)	(0.0158)	(0.0198)	(0.0174)

Table B.12: Effect heterogeneity on further child outcomes by migration background

	(1)	(2) Dep. var	(3) riable: Scho	(4) ol readiness	(5)	
		Mothers' education				ligibility for ave benefits
	All	Low/med.	High	Previously eligible	Previously ineligible	
Heterogeneity by migration background (sample	le mean: 21	%)				
Language skills						
PPL reform effect · Migration background	-0.0179	-0.0471	-0.0023	-0.0085	0.0007	
	(0.0165)	(0.0333)	(0.0299)	(0.0352)	(0.0315)	
PPL reform effect · No migration background	-0.0044	-0.0177	0.0055	0.0051	-0.0112	
	(0.0113)	(0.0164)	(0.0188)	(0.0194)	(0.0232)	
Socio-emotional stability						
PPL reform effect · Migration background	-0.0246	-0.0258	-0.0527	-0.0488	-0.0236	
	(0.0145)	(0.0208)	(0.0362)	(0.0301)	(0.0279)	
PPL reform effect · No migration background	0.0075	0.0075	0.0159	0.0075	-0.0124	
	(0.0102)	(0.0151)	(0.0164)	(0.0174)	(0.0220)	
Motor skills						
PPL reform effect · Migration background	-0.0114	-0.0029	-0.0322	-0.0268	-0.0143	
	(0.0142)	(0.0204)	(0.0256)	(0.0298)	(0.0274)	
PPL reform effect · No migration background	-0.0053	-0.0054	-0.0028	0.0066	-0.0104	
6	(0.0098)	(0.0144)	(0.0160)	(0.0171)	(0.0211)	

Online Appendix on maternal employment outcomes

Supplementary material for Huebener, Kuehnle, & Spiess (2019): "Parental leave policies and socio-economic gaps in child development: Evidence from a substantial benefit reform using administrative data"

Table C.1: Descriptive statistics

	(1)	(2) (3) Sample stratified by eligibility for parental leave		(4)	(5)
	All mothers	Previously eligible	Previously ineligible	Difference	s.e.
If employed 6 months before childbirth (0/1)	.958	.957	.989	032	.003
If employed 18 months before childbirth (0/1)	.889	.805	.960	155	.007
If employed 30 months before childbirth (0/1)	.837	.673	.931	257	.009
Labour earnings 6-18 months before childbirth (Euro)	21289.10	6933.158	31594.87	-24661.71	245.116
Daily wage 6 months before childbirth (Euro)	60.215	20.942	88.403	-67.461	.663
Daily wage 18 months before childbirth (Euro)	54.964	16.187	83.013	-66.826	.746
Daily wage 30 months before childbirth (Euro)	51.145	16.758	76.301	-59.543	.847
German citzenship (0/1)	.924	.900	.939	038	.006
Age at childbirth (years)	30.801	29.820	31.610	-1.790	.121
East German (0/1)	.206	.241	.168	.072	.010
Mother's first child (0/1)	.681	.498	.800	302	.011
Work experience (years)	9.970	8.526	10.911	-2.385	.119
Schleswig-Holstein (0/1)	.032	.035	.030	.005	.004

Notes: This table reports descriptive statistics for our main SIAB samples. "Low" pre-birth wages refers to mothers below the 25th percentile of the pre-birth earnings distribution. "High" pre-birth wages refers to mothers above the median of the pre-birth earnings distribution. The means have been calculated based on non-missing information. The column "Difference" reports the difference in characteristics between children from high- and low-wage mothers.

Source: Own calculations based on SIAB-V7514.

Table C.2: Balancing checks - Analysis of maternal employment outcomes (SIAB)

	(1)	(2) (3) Sample stratified by eligibility for parental leav		
	All mothers	Previously eligible	Previously ineligible	
If employed 6 months before childbirth	.001935	01121	.006913	
	(.008522)	(.01764)	(.006407)	
If employed 18 months before childbirth	.002588	.003812	001543	
	(.01333)	(.03489)	(.0118)	
If employed 30 months before childbirth	.01452	01492	.001673	
	(.01571)	(.04102)	(.01542)	
Labour earnings 6-18 months before childbirth	10.96	630.5*	-182.4	
	(576)	(361.1)	(655.9)	
Daily wage 6 months before childbirth	.145	.5221	.04681	
	(1.567)	(.974)	(1.78)	
Daily wage 18 months before childbirth	1007	1.62	-1.128	
	(1.648)	(1.139)	(1.993)	
Daily wage 30 months before childbirth	.3458	1.594	4514	
	(1.683)	(1.776)	(2.187)	
German citzenship	003767	03587	.0109	
	(.01129)	(.02625)	(.01455)	
Mother's first child	.02468	.05611	.00857	
	(.01986)	(.04397)	(.02431)	
Age at childbirth	3714*	7731	2831	
	(.201)	(.4793)	(.2455)	
East German	02233	01299	02688	
	(.01725)	(.0376)	(.02273)	
Work experience (in years)	2269	5837	1577	
	(.195)	(.4268)	(.2618)	
Schleswig-Holstein	.01024	007061	.01576	
	(.007572)	(.01628)	(.0104)	
N	8,817	2,073	4,345	

Notes: This table reports coefficient estimates of β_{PPL} of regression models outlined in equation 1 (without X) to check the balance of mother's pre-birth characteristics. The dependent variables are listed in the rows. The results are reported for the sample including all children, and subsamples stratified by mothers' pre-birth wages. "Low" pre-birth wages refers to mothers below the 25th percentile of the pre-birth earnings distribution. "High" pre-birth wages refers to mothers above the median of the pre-birth earnings distribution. Robust standard errors are reported in parentheses. ** p < 0.01, * p < 0.05.

Source: Own calculations based on SIAB-V7514.

Table C.3: Mechanisms - Medium-run effects of the parental leave reform on maternal employment outcomes

	(1)	(2)	(3)	(4)	(5)	(6)		
	Outcome observed after childbirth							
Outcome	1 year	2 years	3 years	4 years	5 years	6 years		
Panel A: Previously ineligible (N=4,345)								
Employment	1836**	04606	.02675	002944	.018	.01434		
	(.03014)	(.02904)	(.02833)	(.0281)	(.02716)	(.02551)		
Part-time employment	1456**	04857*	01125	.05253*	02075	005177		
	(.02547)	(.02904)	(.02931)	(.02981)	(.03018)	(.02996)		
Full-time employment	04725*	.00449	.0359	06727**	.03889	.01344		
	(.02611)	(.02741)	(.02822)	(.02722)	(.02632)	(.02515)		
Cumulated work experience	-1.716**	-2.334**	-2.405**	-2.379**	-1.97*	-1.646		
	(.2423)	(.4991)	(.7369)	(.941)	(1.151)	(1.349)		
Cumulated earnings (Euro)	-2783**	-3059**	-2437	-1409	56.32	1319		
	(570.1)	(1296)	(2028)	(2730)	(3469)	(4233)		
Panel B: Previously eligible (N=2,0)	73)							
Employment	04732	.03129	.03527	.008945	.0112	.0002752		
	(.04349)	(.04353)	(.04117)	(.04008)	(.03924)	(.03902)		
Part-time employment	001583	.0158	.03524	.03125	01378	.0006207		
	(.03856)	(.04191)	(.04272)	(.04251)	(.04239)	(.04233)		
Full-time employment	04529	.01738	.016	01489	.03583	.002648		
	(.03176)	(.03387)	(.03758)	(.03511)	(.03396)	(.03235)		
Cumulated work experience (Euro)	8548**	314	04229	.669	.7627	1.107		
_	(.3567)	(.7601)	(1.107)	(1.422)	(1.746)	(2.068)		
Cumulated earnings	-599.3**	-111.4	133.6	969.7	1050	1360		
<u>-</u>	(248.8)	(624.2)	(1057)	(1537)	(2081)	(2679)		

Notes: This table reports the coefficient estimates of the parental leave reform effect (β_{PPL}) on maternal employment outcomes observed at different years after childbirth. The sample includes mothers who give birth between July 2005 and June 2007, but excludes mothers who give birth in December or January because of measurement error in children's month of birth. All regressions are based on equation 1 and include state fixed effects, birth month fixed effects, birth cohort fixed effects, and controls for maternal age at childbirth (squared), German citizenship, first child indicator, and work experience before childbirth. The stratification in Panels B and C is based on pre-reform wages and separates parents into those who were likely *previously eligible* for parental leave benefits 13-24 months after childbirth and who were likely not *previously ineligible* for parental leave benefits 6-12 months after childbirth. Robust standard errors are reported in parentheses. ** p < 0.01, * p < 0.05.

Source: Own calculations based on SIAB-V7514.

Table C.4: Robustness checks - Maternal employment outcomes

	(1) Baseline	, , , ,	(3) (4) (5) (6) Window size without January & December				(7) Including children born	(8) Including children born
	(Jul-Jun)	controls	Aug-May	Sep-Apr	Oct-Mar	Nov-Feb	7/2004-6/2005	Jan & Dec
Panel A: Previously ineligible (N=4,345)								
Employment after 6 months	1398**	1436**	1459**	1381**	1053**	1485**	1331**	1481**
1 7	(.02726)	(.0274)	(.03078)	(.03597)	(.04521)	(.06505)	(.02294)	(.02596)
Part-time employment after 6 months	09803**	09665**	1097**	1122**	09863**	1502**	08446**	09973**
1 2	(.01971)	(.01969)	(.02223)	(.02558)	(.03238)	(.04847)	(.01642)	(.01877)
Full-time employment after 6 months	04749**	05215**	04551*	03393	00686	0001061	05534**	05284**
r	(.02313)	(.02326)	(.02619)	(.03091)	(.03857)	(.05401)	(.01951)	(.02204)
Cumulated work experience after 6 months	4409**	459**	4675**	4654**	3645**	4109	02734	4348**
1	(.09938)	(.1005)	(.1123)	(.1333)	(.1733)	(.2513)	(.08642)	(.09536)
Cumulated earnings after 6 months	-891.2**	-938.4**	-1015**	-1107**	-1221**	-1037**	-855.1**	-997.7**
e e e e e e e e e e e e e e e e e e e	(222)	(226)	(250.6)	(288.3)	(362.3)	(521.3)	(185.4)	(211.7)
N	4,345	4,345	3,432	2,548	1,651	823	6,684	4,797
Panel B: Previously eligible (N=2,073)								
Employment after 6 months	1054**	1071**	08513*	05734	06007	01889	08288**	1063**
	(.0401)	(.04003)	(.04572)	(.05385)	(.06675)	(.09925)	(.03462)	(.03814)
Part-time employment after 6 months	07205**	07364**	06222	04934	05637	09594	07066**	08016**
• •	(.03398)	(.03449)	(.03861)	(.04534)	(.0559)	(.07855)	(.02982)	(.03242)
Full-time employment after 6 months	03144	03228	01841	003399	01134	.07705	01287	02156
	(.02749)	(.02761)	(.0315)	(.03767)	(.04653)	(.07027)	(.02313)	(.0261)
Cumulated work experience after 6 months	2899**	3224**	1782	01328	04727	05441	02077	2632*
•	(.1425)	(.1434)	(.1608)	(.1904)	(.2462)	(.3721)	(.1246)	(.1371)
Cumulated earnings after 6 months	-174.5*	-193.4*	-107.8	-21.15	67.68	141.2	-113.4	-174.3*
5	(101.4)	(99.4)	(115.5)	(145)	(133.2)	(208.4)	(89.68)	(96.69)
N	2,073	2,073	1,615	1,184	763	373	3,137	2,283

Notes: This table reports the results from robustness checks of the reform effect of the parental leave reform on maternal employment outcomes stratified by mothers' pre-birth wages. The window size around the reform cut-off and definitions of the control group are varied. All regressions include state fixed effects, birth month fixed effects, birth cohort fixed effects, and controls for maternal age at childbirth (squared), German citizenship, first child indicator, and work experience before childbirth. Robust standard errors are reported in parentheses. ** p < 0.01, * p < 0.05. *Source:* Own calculations based on SIAB-V7514.

Table C.5: Common trend checks - Maternal employment outcomes

	(1)	(1) (2) (3) Cohort-specific time trends		(4) Placebo	(5) reforms	
	Baseline	Linear	Quadratic	Placebo cohort	Mar/Apr 2007	
Panel A: Previously ineligible						
Employment after 6 months	1398**	1402**	1398**	.01484	03118	
1	(.02726)	(.02723)	(.02722)	(.02794)	(.03902)	
Part-time employment after 6 months	09803**	0971**	09735**	.02642	005342	
1 7	(.01971)	(.01968)	(.01968)	(.02063)	(.0275)	
Full-time employment after 6 months	04749**	04919**	04839**	01306	03196	
1 7	(.02313)	(.02312)	(.0231)	(.02367)	(.03231)	
Cumulated work experience after 6 months	4409**	4444**	4421**	.7801**	08119	
•	(.09938)	(.09932)	(.09927)	(.104)	(.1466)	
Cumulated earnings after 6 months	-891.2**	-886.5**	-883**	45.83	392.2	
	(222)	(221.9)	(221.8)	(220.2)	(320.5)	
N	4,345	4,345	4,345	4,476	2,068	
Panel B: Previously eligible						
Employment after 6 months	1054**	1057**	1084**	.05154	01223	
	(.0401)	(.04015)	(.04014)	(.04023)	(.05704)	
Part-time employment after 6 months	07205**	07268**	07167**	.00901	03554	
• •	(.03398)	(.03401)	(.03404)	(.03403)	(.04741)	
Full-time employment after 6 months	03144	03107	03503	.03738	.01723	
• •	(.02749)	(.0275)	(.02753)	(.0278)	(.03783)	
Cumulated work experience after 6 months	2899**	2986**	3069**	.5836**	2672	
-	(.1425)	(.1431)	(.1429)	(.15)	(.2204)	
Cumulated earnings after 6 months	-174.5*	-181.2*	-186*	131	-180.3	
	(101.4)	(101.5)	(101.4)	(84.07)	(131.8)	
N	2,073	2,073	2,073	2,130	1,028	

Notes: This table reports the results of sensitivity checks to alternative model specifications for the common trend assumption for the full sample, and subsamples stratified by mothers' pre-birth wages. It also reports the results from placebo regressions. All regressions include state fixed effects, birth month fixed effects, birth cohort fixed effects, and controls for maternal age at childbirth (squared), German citizenship, first child indicator, and work experience before childbirth. Robust standard errors are reported in parentheses. ** p < 0.01, * p < 0.05. *Source:* Own calculations based on SIAB-V7514.