Selection into maternity leave length and long-run maternal health in Germany

Online supplementary materials

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## Overview maternity leave policies and implications Germany

Table S1: Overview maternity leave policies and implications Germany.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Length of maternity leave** | **Maternity leave reform periods** | | | | | |
| Before 1992 | | 1992 to 2006 | | From 2007 | |
| Job protection | Benefits | Job protection | Benefits | Job protection | Benefits |
| 2 months (statutory leave) | **Yes** | **Full income compensation** | **Yes** | **Full income compensation** | **Yes** | **Full income compensation** |
| 3 to 12 months | **Yes, up to 6 months** | **€300 to €450 (6 months), income dependent** | **Yes** | **€300 to €450,  income dependent** | **Yes** | **€300 to €1,800, 67% income\* reimbursement** |
| 13 to 24 months | **No** | **No** | **Yes** | **€300 to €450,  income dependent** | **Yes** | **No\*\*** |
| 25 to 36 months | **No** | **No** | **Yes** | **No** | **Yes** | **No** |

Note: Job protection regulations and benefits for mothers in Germany for different maternity leave lengths and reform periods

\* The 67% income reimbursement can be received 14 months post-partum if parental leave is allocated between both parents.

\*\* A partial income reimbursement (“Elterngeld Plus”) can be paid for up to 24 months post-partum given the parent leave works part-time. However, since our maternity leave measure would not capture those cases as on maternity leave (due to how the underlying variable from the VSKT is coded), we do not refer to this variation of the maternity leave reform of 2007.

## Survival analysis

Table S2: Summary statistics of the survival analysis\*.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Time at risk** | **Incidence rate** | **Number of subjects** | **Survival time: 25 %** |
| Total | 844,133 | 0.0011586 | 4,243 | . |
| Length of maternity leave |  |  |  |  |
| 2 months | 231,357 | 0.0008774 | 1,108 | . |
| 3-12 months | 311,266 | 0.0009413 | 1,516 | . |
| 13-24 months | 203,683 | 0.0014729 | 1,042 | 103 |
| 25-36 months | 97,827 | 0.0018604 | 577 | 79 |

Note: Time at risk, incidence rate, number of subjects and survival time by different variables; \* for the full sample and by length of maternity leave, pre-conception sick leave, income above mean and reform period.

## Regression results

Table S3: Logistic regression results: log odd coefficients of monthly sick leave.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Null model** | | **Final model** | |
| **Log odds** | Coef. | (Std. Err.) | Coef. | (Std. Err.) |
| t (months) | -0.03975\*\*\* | (0.001605) | -0.03902\*\*\* | (0.001611) |
| t\*t (months) | 0.00006\*\*\* | (3.91e-06) | 0.00006\*\*\* | (3.89e-06) |
| Maternity leave length |  |  |  |  |
| 2 months (statutory leave) (reference) |  |  |  |  |
| 3 to 12 months | 0.150316\* | (0.075005) | -0.157399 | (0.176058) |
| 13 to 24 months | 0.355557\*\*\* | (0.073103) | 0.003411 | (0.181629) |
| 25 to 36 months | 0.201530\* | (0.083079) | 0.268073 | (0.22945) |
| Reform period |  |  |  |  |
| Pre-1992 (reference) |  |  |  |  |
| Post-1992 |  |  | -0.341034\* | (0.163789) |
| Pre-conception sick leave |  |  |  |  |
| No pre-conception sick leave (reference) |  |  |  |  |
| Pre-conception sick leave |  |  | 0.41419\* | (0.177054) |
| Age at first childbirth |  |  |  |  |
| 20-24 years (reference) |  |  |  |  |
| 25-29 years |  |  | -0.322562\* | (0.145821) |
| 30-34 years |  |  | -0.354706\* | (0.158938) |
| 35-39 years |  |  | -0.777771\*\* | (0.242468) |
| Interaction terms |  |  |  |  |
| Maternity leave length \* Reform period |  |  |  |  |
| 3 to 12 months \* Post-1992 |  |  | 0.167461 | (0.200939) |
| 13 to 24 months \* Post-1992 |  |  | 0.201427 | (0.195112) |
| 25 to 36 months \* Post-1992 |  |  | -0.068603 | (0.240853) |
| Maternity leave length \* Age at first childbirth |  |  |  |  |
| 3 to 12 months \* 25-29 years |  |  | 0.149912 | (0.184457) |
| 3 to 12 months \* 30-34 years |  |  | -0.149781 | (0.221064) |
| 3 to 12 months \* 35-39 years |  |  | 0.054711 | (0.319065) |
| 13 to 24 months \* 25-29 years |  |  | 0.137853 | (0.178239) |
| 13 to 24 months \* 30-34 years |  |  | 0.027206 | (0.205477) |
| 13 to 24 months \* 35-39 years |  |  | 0.050188 | (0.342442) |
| 25 to 36 months \* 25-29 years |  |  | 0.237894 | (0.200678) |
| 25 to 36 months \* 30-34 years |  |  | -0.208500 | (0.239269) |
| 25 to 36 months \* 35-39 years |  |  | 0.301729 | (0.340918) |
| Pre-conception sick leave \* Reform period |  |  |  |  |
| Pre-conception sick leave \* Post-1992 |  |  | -0.125208 | (0.120074) |
| Intercept | -4.37722\*\*\* | (0.070402) | -3.81243\*\*\* | (0.156739) |
| N | 737,194 |  | 737,194 |  |
| Pseudo R2 | 0.1830 |  | 0.1894 |  |
| Degrees of freedom | 5 |  | 26 |  |
| Log pseudolikelihood | -6,091.9295 |  | -6,044.38 |  |

Note: Standard errors in parentheses, corrected for n = 4,243 clustered individuals over N = 737,194 observations.

\*\*\*p<.001, \*\*<.01, \*p<0.05

Table S4: Average marginal effects of all included covariates separately on monthly probabilities of sick leave.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Main explanatory variable** | **Average marginal effects** | | **95% Confidence Interval** | |
| Maternity leave length |  | |  | |
| 2 months (statutory leave) (reference) |  |  |  |  |
| 3 to 12 months | 0.000050 | (0.000091) | -0.000115 | 0.000241 |
| 13 to 24 months | 0.000316\*\* | (0.000096) | 0.000147 | 0.000523 |
| 25 to 36 months | 0.000258\* | (0.000112) | 0.000032 | 0.000472 |
| Reform period |  |  |  |  |
| Pre-1992 (reference) |  |  |  |  |
| Post-1992 | -0.000402\*\*\* | (0.000108) | -0.000613 | -0.00019 |
| Pre-conception sick leave |  |  |  |  |
| No pre-conception sick leave (reference) |  |  |  |  |
| Pre-conception sick leave | 0.000447\*\*\* | (0.000089) | 0.000273 | 0.00062 |
| Age at first childbirth |  |  |  |  |
| 20-24 years (reference) |  |  |  |  |
| 25-29 years | -0.000293\*\* | (0.000097) | -0.000482 | -0.000104 |
| 30-34 years | -0.000586\*\*\* | (0.000107) | -0.000797 | -0.000376 |
| 35-39 years | -0.000841\*\*\* | (0.000125) | -0.001085 | -0.000597 |

Note: Standard errors in parentheses, corrected for n = 4,243 clustered individuals over N = 737,194 observations.

\*\*\*p<.001, \*\*<.01, \*p<0.05

## Sensitivity analysis

Table S5: Sensitivity analysis: Average marginal effects of maternity leave length on monthly sick leave probabilities with observation starting point (t0) t = month 37 (initial analysis) vs. t = month 1 post-partum.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Maternity leave length** | **Average marginal effects** | | | |
| **Initial analysis (t0 = month 36)** | | **Sensitivity analysis (t0 = month 0)** | |
| 2 months (statutory) (reference) |  | |  | |
| 3-12 months | 0.000050 | (0.000091) | 0.000033 | (0.000037) |
| 13-24 months | 0.000316\*\* | (0.000096) | 0.000316\*\*\* | (0.000080) |
| 25-36 months | 0.000258\* | (0.000112) | 0.000365\*\*\* | (0.000098) |

Note: Average marginal effects on monthly probabilities of sick leave of maternity leave length for observation starting at t = 37 months post-partum (initial analysis) vs. observation starting at t = 1 month post-partum, i.e., immediately after childbirth, using regression model of original results; standard errors in parentheses, corrected for n = 4,243 clustered individuals over N = 737,194 observations.

\*\*\*p<.001, \*\*<.01, \*p<0.05

Table S6: Sensitivity analysis: Average marginal effects of maternity leave length on monthly sick leave probabilities for the full, the East and the West German subsamples born between 1970 and 1979.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Maternity leave length** | **Predictive margins (monthly)** | | | | | |
| **Full sample†** | | **East German sample†** | | **West German sample†** | |
|  | **N** = 429,614 | | 168,269 | | 261,345 | |
| **n** = 1,788 | | 673 | | 1,115 | |
| 2 months (statutory) (reference) | |  |  |  |  |  |
| 3-12 months | 0.000032 | (0.000113) | 0.00008 | (0.000193) | -0.000079 | (0.000139) |
| 13-24 months | 0.000324\* | (0.000119) | 0.000459\* | (0.000196) | 0.000099 | (0.000148) |
| 25-36 months | 0.000190 | (0.000133) | 0.000128 | (0.000256) | 0.000265 | (0.000155) |

Note: Average marginal effects on monthly probabilities of sick leave of maternity leave length for full sample vs. only East German subsample vs. only West German subsample born between 1970 and 1970 using regression model of original results omitting independent predictor of reform period; †Since East German population was only included in 1990, only mothers being born 1970 and later are included in the analysis; standard errors in parentheses, corrected for clustered individuals (n) over observations (N).

\*\*\*p<.001, \*\*<.01, \*p<0.05

Table S7: Sensitivity analysis: Average marginal effects of maternity leave length on monthly sick leave probabilities for the full sample (including censored cases at the time of the second child conception) and a sample of only-child mothers

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Maternity leave length** | **Average marginal effects** | | | |
| **Initial analysis** | | **Sensitivity analysis (Only-child mothers)** | |
| 2 months (statutory) (reference) |  | |  | |
| 3-12 months | 0.000050 | (0.000091) | 0.000077 | (0.000078) |
| 13-24 months | 0.000316\*\* | (0.000096) | 0.000281\*\* | (0.000083) |
| 25-36 months | 0.000258\* | (0.000112) | 0.000235\* | (0.000093) |

Note: Average marginal effects on monthly probabilities of sick leave of maternity leave length for the full sample and a subsample of only-child mothers using regression model of original results; standard errors in parentheses, corrected for n = 4,243 clustered individuals over N = 737,194 observations (initial analysis) and n = 1,796 clustered individuals over N = 703,365 observations (sensitivity analysis).

\*\*\*p<.001, \*\*<.01, \*p<0.05