**Long-Run and Heterogeneous Effects of Maternity Leave Expansions**

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**Research Question and Contribution**

How do parental leave expansions affect mothers labor market outcomes after births?

Focus on:
- First time mothers
- Employment and earnings up to 20 years after birth
- Several reforms that each expanded job protection and maternity benefits
- Potential reasons for missing long-run effects
  - Who signs up for maternity leave?
  - Are reform effects identical across subpopulations?

Contribution:
- Scarce evidence for the long-run
- Suggestive evidence for heterogeneous effects for compliers and non-compliers
- Analysis of subpopulation characteristics
- Lower bound evidence for loss in experience

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**Maternity Leave Reforms:**
- **Basis:** Maternal protection period (Mutterschutz), 8 weeks post-birth, 100% earnings
- **Reform 1:** 05/1979, Maternity leave (Mutterschaftsurlaub), up to 6 month post-birth, earnings-related benefits, max. DM 750/month
- **Reform 2:** 01/1986, Parental leave (Erziehungsurlaub), up to 10 month post-birth, DM 600/month in month 2-6, income-tested benefits up to DM 600/month in month 7-10
- **Reform 3:** 01/1988, extended duration of parental leave to up to 12 month, no further changes

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**Main Results**

- Causal effect of being assigned to treatment (ITT)
- Significant reductions in employment and earnings for all reforms in the short-run (reform 3 effect not significant at the year level, but still for the 2 month of expansion)
- Employment and earnings effects decline over time
- Long-run effects are smaller for each further expansion
- Changes in earnings apparently driven by labor market participation
- Reform 1: Mothers assigned to treatment have worked and earned >20% less 10 years after birth than mothers of the control group
- Lack of significant long-run effects of reforms 2 and 3

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**Heterogeneities**

- AT: Always stay home in months of expansion \(D_1(T) = 1\)
- NT: Never stay home in months of expansion \(D_1(T) = 0\)
- Compliers have above average means in pre-birth earnings and experience
- Always-takers have low pre-birth mean earnings
- Different costs of staying home
- Heterogeneous treatment costs effects for compliers and non-compliers

**Local Average Treatment Effect (LATE) for compliers:**
- Effect of longer employment breaks

**Positive reform effect for AT (\(\delta_{AT}\)):**
- Extended job security might strengthen positions of AT in the long-run if utility of staying home decreases with child’s age (e.g. for reform 1: mothers who want to stay home at least 6 month return to the same employer if treated and meet with no job or worse conditions if untreated)
- \(\text{ITT} = \pi_{NT} \cdot \delta_{AT} + \pi_{AT} \cdot \delta_{AT} + \pi_{C} \cdot \delta_{C}\)
- If \(\delta_{AT} = 0\) then \(\delta_{AT} > 0\):
  - Positive job security effect partly offsets negative experience effect in the long run
  - Estimated LATE \((\hat{\delta}_{C})\) is upper bound of true effect \(\delta_{C} = \frac{\hat{\delta}_{C}}{\hat{\pi}_{C}}\)