The Effect of Prenatal Maternity Leave Duration on Short and Long-term Child Outcomes

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IHS Labor Workshop
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Introduction

▸ Motivation
- Maternity leave (ML) policies essential for ensuring health of pregnant workers and unborn children.
- Little is know about the optimal ML duration, existing policies not evidence-based.
- No microlevel studies with credible identification.

▸ Research question
- **Substantial prenatal mandatory maternity leave extension in Austria.**
- Beneficial for children and their mothers?
  - Better birth outcomes?
  - Better subsequent maternal fertility outcomes?
  - Better long-run outcomes?
- **External validity:** How does Austria compare to other OECD countries?

▸ Findings
- Robust zero LATEs throughout, also in our cross-country analysis.
The grand scheme of things

- Why is it interesting to look at a ML extension of two weeks?

- Related: how does maternal employment during pregnancy affect children and mothers.
  - Effects of maternal employment during the first years of a child’s life are extensively studied. (e.g., Dustmann and Schönberg, 2012; Carneiro et al., 2015; Dahl et al., 2016; Danzer et al., 2017)
  - Scarce evidence on effects of maternal employment during pregnancy.

- Quasi-experiment: Women are as-good-as randomly assigned to work two weeks less during pregnancy.

- Cross-country analysis to prove external validity of results.
Mechanisms

- Reduction in psychological and physiological stress level.
- Reduction in specific occupational exposures.
- Substituting work with leisure $\implies$ healthier behavior, e.g., more time to rest, healthier diet, time to do necessary prenatal checkups.
- **Fetal origins hypothesis** $\implies$ Importance of prenatal environment on later child and health outcomes.  \((\text{Almond and Currie, 2011a,b})\)
Existing literature

- **Rossin (2011, JHE)**
  - U.S. *Family Medical Leave Act* (FMLA) of 1993, stipulated unpaid leave for twelve weeks.
  - Identification based on variation in FMLA policies across states and variation over which firms are covered by FMLA.
  - **Results:** Birth weight ↑ premature births ↓ infant mortality ↓↓
    ➞ Effects only present for children of highly educated mothers

- **Steams (2015, JHE)**
  - Evaluates state-based access to paid maternity leave in the USA.
  - Five states were required to provide wage reimbursements to pregnant mothers through their *Temporary Disability Insurance* (TDI) programs.
  - **Results:** Birth weight ↓ premature births ↓
    ➞ Driven by disadvantaged African-American and unmarried mothers.
Existing literature

- **Wüst (2015, HE)**
  - Effect of maternal employment during pregnancy on birth outcomes in Denmark?
  - Exploits variation across pregnancies by comparing outcomes of mothers’ consecutive children.
  - **Results:** Premature births ↓
Institutional setting in Austria

- Mandatory paid job-protected maternity leave legislated in 1957.
- Until 1974, six weeks of leave prior to birth were mandated. Reform in April 1974 increased duration to eight weeks.
- Mandatory postnatal leave was also extended from six to eight weeks.
- Beginning of prenatal leave is estimated based upon the doctor’s estimation of date of delivery.
- **Important** Prenatal leave may start earlier, if the mother’s or the child’s health is at risk due to work.
- During the leave, mothers are fully reimbursed for their lost income (transfer payment, 100% of net earnings).
  - Did not change due to the reform.
- Mothers cannot be dismissed up until four months after the delivery.
  - Did not change due to the reform.
Data

- Data from the **Austrian Social Security Database** (ASSD) linked with records from the **Austrian Birth Register** (ABR).

- Universe of all births from 1973 until today.

- **ASSD**  Detailed employment and wage histories, demographics, etc.
  - Daily information on occupation, experience, tenure for each worker.
  - Earnings are provided per year per employer, but top-coded
  - We do not observe working hours.

- **ABR**  Contains information on birth characteristics
  - Date and place of birth, birth weight, birth length, etc.
  - Socioeconomic information which are not available in the ASSD.
Evaluating the reform

- Mandatory prenatal and postnatal maternity leaves extended from six to eight weeks, respectively, in 1974.

  ⟹ All other aspects of maternity leave (e.g., transfer payments) unaffected.
  ⟹ Also postnatal leave duration remained unaffected.

- **Experimental set-up** ($N = 7,350$)
  
  A  Treatment group  Mothers who gave birth in June ’74.
  N  Control group  Mothers who gave birth in April ’74.

  Step-wise phase-in period during May 1974 ⟹ left-out as a ‘donut.’

  Mothers in A eligible for one additional medical prenatal check-up.

- **Fuzzy regression discontinuity design** (RDD).

- Eligibility determined by a **cutoff due-date**.

  ⟹ Unobservable, we therefore use the actual birth date as a proxy.

- What if actual birth date ≠ expected birth date?
  
  - In A but not assigned ⟹ Pregnancy duration of ≥ 44 w.  (ovr. 0.02%)
  - In N but assigned ⟹ Pregnancy duration of ≤ 34 w.  (ovr. 1.7%)
Average maternity leave duration around the cut-off

Prenatal maternity leaves  A … assigned, N … not assigned

Alexander Ahammer et al. (JKU Linz)  Maternity leaves  IHS Workshop
Average maternity leave duration around the cut-off

Postnatal maternity leaves  A … assigned, N … not assigned

<table>
<thead>
<tr>
<th>Birth date</th>
<th>Average duration</th>
<th>Quadratic fit</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb</td>
<td>7.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr</td>
<td>8.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jul</td>
<td>7.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep</td>
<td>8.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Longer window
Fuzzy regression discontinuity design

\[ m\text{ldur}_i = \alpha_0 + \alpha_1 jun_i + x_i \gamma' + \eta_i \]

\[ y_i = \beta_0 + \varphi_{rdd} \cdot m\text{ldur}_i + x_i \delta' + \varepsilon_i, \quad i \in W, \]

| \( y \) | Outcome | Birth weight, length, maternal survival, etc. |
| \( m\text{ldur} \) | Treatment | Maternity leave duration in days |
| \( jun \) | Assignment | \( jun_i = 1 \) if expected birth date is in June 1974 |
| \( x \) | Vector of additional control variables\(^1\) |
| \( \varepsilon, \eta \) | Error terms |
| \( W \) | Working mothers |

\(^1\)Mother’s religion, age, province of residence, and citizenship, as well as a dummy for whether child was born in wedlock.
Identification

1. **Assignment to the increased prenatal ML duration** \(jn_i\) **must predict actual take-up** \(mldur\).
   - Testable \(\rightarrow \hat{\alpha}_1 = 1.587\ (0.058)\), first-stage \(F\)-statistic 757.

2. **Mothers must not precisely manipulate their child’s expected date of birth around the cutoff.**
   - Timing of reform rules out that parents adjusted conception behavior.
   - Bill was passed March 6, 1974 and became effective April 1, 1974.
   - Smooth densities around the threshold.

3. **Assignment** \(a_i\) **must not be correlated with any outcome-determining factor.**
   - Not testable, but none of our covariates changes discontinuously around the cutoff.
Average number of daily births

A ... assigned, N ... not assigned

![Graph showing average number of daily births with daily births, quadratic fit, and 95% CI marked.]

- **Daily births**
- **Quadratic fit**
- **95% CI**
Covariate balancing

- Child born in wedlock
  - Mean
  - Religion: Protestant
  - Religion: Other
  - Religion: None
  - Austrian citizen
  - Low income
  - Blue collar worker

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Maternity leaves

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<table>
<thead>
<tr>
<th>Short name</th>
<th>Variable</th>
<th>Support</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health at birth outcomes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birth weight</td>
<td>Log of birth weight in dg.</td>
<td>[0, ∞)</td>
<td>ABR</td>
</tr>
<tr>
<td>Low birth weight</td>
<td>Probability that birth weight is &lt; 250 dg.</td>
<td>{0, 1}</td>
<td>ABR</td>
</tr>
<tr>
<td>SGR</td>
<td>Probability of having low birth weight and a low PI ($PI = kg/m^3$)</td>
<td>{0, 1}</td>
<td>ABR</td>
</tr>
<tr>
<td>Length</td>
<td>Length of child in cm.</td>
<td>[0, ∞)</td>
<td>ABR</td>
</tr>
<tr>
<td>Premature birth</td>
<td>Probability of delivering prematurely</td>
<td>{0, 1}</td>
<td>ABR</td>
</tr>
<tr>
<td><strong>Subsequent maternal fertility outcomes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 year survival</td>
<td>Probability that mother survived until 20 years after delivering</td>
<td>{0, 1}</td>
<td>ASSD</td>
</tr>
<tr>
<td>40 year survival</td>
<td>Probability that mother survived until 40 years after delivering</td>
<td>{0, 1}</td>
<td>ASSD</td>
</tr>
<tr>
<td>No. of next birth</td>
<td>Number of further children conceived by the mother</td>
<td>[0, ∞)</td>
<td>ASSD</td>
</tr>
<tr>
<td>Further birth</td>
<td>Probability of conceiving again</td>
<td>{0, 1}</td>
<td>ASSD</td>
</tr>
<tr>
<td>Time to next birth</td>
<td>Time until next birth in days, conditional on conceiving again</td>
<td>[0, ∞)</td>
<td>ASSD</td>
</tr>
<tr>
<td><strong>Childrens’ long-term outcomes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>Probability of being employed at age 40</td>
<td>{0, 1}</td>
<td>ASSD</td>
</tr>
<tr>
<td>Wage</td>
<td>Log of annual wage at age 40</td>
<td>[0, ∞)</td>
<td>ASSD</td>
</tr>
<tr>
<td>White collar</td>
<td>Probability of being a white collar worker at age 40</td>
<td>{0, 1}</td>
<td>ASSD</td>
</tr>
</tbody>
</table>

[Summary statistics and variable descriptions](#)
# Health at birth outcomes

Main estimates

<table>
<thead>
<tr>
<th>Duration of prenatal maternity leave</th>
<th>Panel A. RDD</th>
<th>Panel B. OLS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1) Birth weight</td>
<td>(2) Low birth weight</td>
</tr>
<tr>
<td>Duration of prenatal maternity leave</td>
<td>-0.005* (0.003)</td>
<td>0.001 (0.003)</td>
</tr>
<tr>
<td>No. of observations</td>
<td>7,350</td>
<td>7,350</td>
</tr>
<tr>
<td>Mean of outcome</td>
<td>5.77</td>
<td>0.06</td>
</tr>
<tr>
<td>Std. dev. of outcome</td>
<td>0.19</td>
<td>0.23</td>
</tr>
<tr>
<td>Kleinbergen-Paap rK Wald F-statistic</td>
<td>756.93</td>
<td>756.93</td>
</tr>
</tbody>
</table>

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<thead>
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</tr>
</thead>
<tbody>
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<td></td>
<td>(1) Birth weight</td>
<td>(2) Low birth weight</td>
</tr>
<tr>
<td>Duration of prenatal maternity leave</td>
<td>0.009*** (0.001)</td>
<td>-0.010*** (0.002)</td>
</tr>
<tr>
<td>No. of observations</td>
<td>7,350</td>
<td>7,350</td>
</tr>
<tr>
<td>Mean of outcome</td>
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</tr>
</tbody>
</table>

Notes: Robust standard errors in parentheses, stars indicate statistical significance: * p < 0.10, ** p < 0.05, *** p < 0.01.
Health at birth outcomes

Heterogeneous effects

Panel A. Birth weight

- Estimated LATE
- Blue
- White
- < 21
- [21, 29)
- ≥ 29
- Low
- High

Baseline, Occupational collar, Age, Income

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Health at birth outcomes

Heterogeneous effects

Panel B. Length

Estimated LATE

Baseline
Occupational collar
Age
Income

Estimated LATE

Blue
White
< 21
[21,29)
≥ 29
Low
High

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Health at birth outcomes
Heterogeneous effects

Panel C. *Premature birth*

- Estimated LATE
- Baseline
- Occupational collar
- Age
- Income

<table>
<thead>
<tr>
<th>Group</th>
<th>Blue</th>
<th>White</th>
<th>&lt; 21</th>
<th>[21,29)</th>
<th>≥ 29</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
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<td>High</td>
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</tr>
</tbody>
</table>

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Maternity leaves
IHS Workshop
Mothers’ subsequent maternal outcomes

Main estimates

<table>
<thead>
<tr>
<th></th>
<th>(1) 20 year survival</th>
<th>(2) 40 year survival</th>
<th>(3) No. of next births</th>
<th>(4) Further birth</th>
<th>(5) Time to next birth†</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel A. RDD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of prenatal maternity leave</td>
<td>-0.001 (0.001)</td>
<td>-0.007* (0.004)</td>
<td>0.015 (0.012)</td>
<td>0.007 (0.007)</td>
<td>-0.002 (0.016)</td>
</tr>
<tr>
<td>No. of observations</td>
<td>7,350</td>
<td>7,350</td>
<td>7,350</td>
<td>7,350</td>
<td>3,619</td>
</tr>
<tr>
<td>Mean of outcome</td>
<td>0.99</td>
<td>0.92</td>
<td>0.70</td>
<td>0.49</td>
<td>7.10</td>
</tr>
<tr>
<td>Std. dev. of outcome</td>
<td>0.09</td>
<td>0.27</td>
<td>0.88</td>
<td>0.50</td>
<td>0.73</td>
</tr>
<tr>
<td>Kleinbergen-Paap rK Wald F-statistic</td>
<td>756.93</td>
<td>756.93</td>
<td>756.93</td>
<td>756.93</td>
<td>366.27</td>
</tr>
<tr>
<td><strong>Panel B. OLS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of prenatal maternity leave</td>
<td>0.000 (0.000)</td>
<td>-0.000 (0.001)</td>
<td>0.002 (0.004)</td>
<td>0.003 (0.002)</td>
<td>-0.006 (0.005)</td>
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<tr>
<td>No. of observations</td>
<td>7,350</td>
<td>7,350</td>
<td>7,350</td>
<td>7,350</td>
<td>3,619</td>
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<td>0.49</td>
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<td>0.27</td>
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<td>0.50</td>
<td>0.73</td>
</tr>
</tbody>
</table>

**Notes:** Robust standard errors in parentheses, stars indicate statistical significance: * p<0.10, ** p<0.05, *** p<0.01. 
† Time to next birth is conditional on giving birth again, thus the samples includes only mothers who had another child afterwards.
Mothers’ subsequent maternal outcomes

Heterogeneous effects

Panel A. 20 year survival

Estimated LATE

-0.010
-0.005
0.000
0.005
0.010
0.015
0.020

Baseline
Occupational collar
Age
Income

Blue
White
< 21
[21, 29)
≥ 29
Low
High

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Mothers’ subsequent maternal outcomes

Heterogeneous effects

Panel B. 40 year survival

-0.08 -0.06 -0.04 -0.02 0.00 0.02 0.04

Baseline Occupational collar Age Income

Parameter estimate 95% CI

Blue White < 21 [21,29) ≥ 29 Low High

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Mothers’ subsequent maternal outcomes

Heterogeneous effects

Panel C. **No. of next births**

<table>
<thead>
<tr>
<th></th>
<th>Parameter estimate</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Occupational collar</td>
<td>0.05</td>
<td>0.00, 0.10</td>
</tr>
<tr>
<td>Age</td>
<td>0.10</td>
<td>0.05, 0.15</td>
</tr>
<tr>
<td>Income</td>
<td>0.20</td>
<td>0.15, 0.25</td>
</tr>
</tbody>
</table>

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## Childrens’ long-term outcomes

<table>
<thead>
<tr>
<th></th>
<th>(1) Employed</th>
<th>(2) Wage</th>
<th>(3) White collar</th>
<th>(4) Outpatient expenses</th>
<th>(5) Hospital days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of prenatal maternity leave</td>
<td>0.007</td>
<td>0.009</td>
<td>-0.013</td>
<td>-38.000</td>
<td>-1.431</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
<td>(0.017)</td>
<td>(0.014)</td>
<td>(131.584)</td>
<td>(1.395)</td>
</tr>
<tr>
<td>No. of observations</td>
<td>2,395</td>
<td>1,559</td>
<td>2,002</td>
<td>511</td>
<td>511</td>
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<tr>
<td>Mean of outcome</td>
<td>0.84</td>
<td>4.68</td>
<td>0.69</td>
<td>1832.21</td>
<td>9.19</td>
</tr>
<tr>
<td>Std. dev. of outcome</td>
<td>0.37</td>
<td>0.51</td>
<td>0.46</td>
<td>2339.60</td>
<td>23.90</td>
</tr>
<tr>
<td>Kleinbergen-Paap $rK$ Wald $F$-statistic</td>
<td>204.82</td>
<td>151.20</td>
<td>176.63</td>
<td>48.91</td>
<td>48.91</td>
</tr>
</tbody>
</table>

Notes: Robust standard errors in parentheses, stars indicate statistical significance: * p<0.10, ** p<0.05, *** p<0.01.
Robustness: Non-working mothers

- We use **non-working mothers as a control group** in an RDD difference-in-differences (RDD-DiD) setting.
- Mothers who did not work in the year they gave birth were not eligible for maternity leave.
- Using them as a control group differences-out certain heterogeneities, e.g., seasonal effects or age effects.

**Regression discontinuity difference-in-differences design**

\[
ml_i = \theta_0 + \theta_1 jun_i + \theta_2 w_i + \theta_3 (jun_i \times w_i) + x_i \zeta' + u_i
\]

\[
y_i = \rho_0 + \varphi_{rdd-did} \cdot \hat{mldur}_i + \rho_1 a_i + \rho_2 w_i + x_i \iota' + v_i, \quad i \in N,
\]

where \(w_i \in \{0, 1\}\) is an indicator for whether mum \(i\) was employed at the time she gave birth.
## Robustness: RDD-DiD results

<table>
<thead>
<tr>
<th>Birth weight</th>
<th>Low birth weight</th>
<th>SGR</th>
<th>Length</th>
<th>Premature</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0.03</td>
<td>-0.02</td>
<td>-0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>-0.01</td>
<td>0.02</td>
<td>0.00</td>
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<tr>
<td>0.00</td>
<td>0.02</td>
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<td>0.01</td>
<td>0.02</td>
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<tr>
<td>0.02</td>
<td>0.02</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Estimated LATE

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Maternity leaves

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Cross-country analysis

- **Findings so far**  No significant benefits for children or mothers, neither at birth nor later on, in Austria.

- **Cross-country study** to overcome three obstacles to the external validity of our findings:
  - Austria has a very generous welfare system.
  - Other protection measures for pregnant women since 1957, e.g., ban of job tasks which involve long standing, heavy lifting, or piecework with high working speed.
  - If doctors detect health issues, working women may either go into sick leave or early maternity leave.

- We analyze different maternity leave reforms across OECD countries.

- Effects on aggregate health at birth measures, maternal mortality and subsequent fertility.

- **Summary statistics and variable descriptions**
Reforms across OECD countries

Weeks of (paid or mandatory) prenatal maternity leave


AUT BEL CZE DNK
FIN GRC HUN IRL
ISL ITA LUX NLD
NOR POL PRT SVK
SWE

Alexander Ahammer et al. (JKU Linz)
Results of cross-country analysis

Perinatal and neonatal mortality  (linear DiD estimations with cubic time trends)

Panel A. Perinatal mortality

Panel B. Neonatal mortality
Results of cross-country analysis

Low birth weight and maternal mortality  (linear DiD estimations with cubic time trends)

Panel C. Low birth weight

Panel D. Maternal mortality
Results of cross-country analysis

Total fertility rate  (linear DiD estimations with cubic time trends)

Panel E. Total fertility rate

Year relative to reform year

Coefficients & 95% CI

ML Expansions

ML Reductions
Conclusions

- In Austria, an increase in the duration of prenatal maternity leave had from six to eight weeks had **no effect** on
  - Childrens’ health at birth outcomes
  - Subsequent maternal fertility
  - Childrens’ long-run labor market and health outcomes

- Not only in Austria, but **also in other OECD countries** changes in mandated maternity leave duration does not seem to be beneficial for mothers or their children.

- Yet to do …
  - More robustness checks necessary?
  - Any other suggestions?
Thank you!

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## Individual-level analysis

### Summary statistics

<table>
<thead>
<tr>
<th>Duration of prenatal maternity leave</th>
<th>Working mothers</th>
<th>Non-working mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>7350</td>
<td>3074</td>
</tr>
<tr>
<td>Mean</td>
<td>7.11</td>
<td>40.00</td>
</tr>
<tr>
<td>Std. dev.</td>
<td>2.60</td>
<td>0.00</td>
</tr>
<tr>
<td>Min.</td>
<td>0.3</td>
<td>40.0</td>
</tr>
<tr>
<td>Max.</td>
<td>33.3</td>
<td>40.0</td>
</tr>
</tbody>
</table>

### Health at birth outcomes

- **ln(birth weight)**
  - N: 7350
  - Mean: 5.77
  - Std. dev: 0.19
  - Min: 3.7
  - Max: 6.3

- **Low birth weight\(^b\)**
  - N: 7350
  - Mean: 0.06
  - Std. dev: 0.23
  - Min: 0.0
  - Max: 1.0

- **Symmetric growth restriction\(^c\)**
  - N: 7350
  - Mean: 0.04
  - Std. dev: 0.19
  - Min: 0.0
  - Max: 1.0

- **ln(length)**
  - N: 7350
  - Mean: 3.92
  - Std. dev: 0.06
  - Min: 3.3
  - Max: 4.1

- **Premature birth\(^d\)**
  - N: 7350
  - Mean: 0.06
  - Std. dev: 0.24
  - Min: 0.0
  - Max: 1.0

### Subsequent fertility outcomes

- **20 year survival probability**
  - N: 7350
  - Mean: 0.99
  - Std. dev: 0.09
  - Min: 0.0
  - Max: 1.0

- **40 year survival probability**
  - N: 7350
  - Mean: 0.92
  - Std. dev: 0.27
  - Min: 0.0
  - Max: 1.0

- **Number of next births**
  - N: 7350
  - Mean: 0.70
  - Std. dev: 0.88
  - Min: 0.0
  - Max: 8.0

- **Probability of having another child**
  - N: 7350
  - Mean: 0.49
  - Std. dev: 0.50
  - Min: 0.0
  - Max: 1.0

- **ln(time to next birth)**
  - N: 3619
  - Mean: 7.10
  - Std. dev: 0.73
  - Min: 5.3
  - Max: 9.1

### Sample stratification variables

- **Blue collar worker**
  - N: 7285
  - Mean: 0.54
  - Std. dev: 0.50
  - Min: 0.0
  - Max: 1.0

- **Below median income in 1973**
  - N: 6762
  - Mean: 0.46
  - Std. dev: 0.50
  - Min: 0.0
  - Max: 1.0

### Covariates

- **Age at birth**
  - N: 7350
  - Mean: 24.29
  - Std. dev: 5.19
  - Min: 15.0
  - Max: 47.0

- **Child born in wedlock**
  - N: 7350
  - Mean: 0.84
  - Std. dev: 0.37
  - Min: 0.0
  - Max: 1.0

- **Religion**
  - Catholic
    - N: 7350
    - Mean: 0.87
    - Std. dev: 0.34
    - Min: 0.0
    - Max: 1.0
  - Protestant
    - N: 7350
    - Mean: 0.05
    - Std. dev: 0.22
    - Min: 0.0
    - Max: 1.0
  - Other religion
    - N: 7350
    - Mean: 0.07
    - Std. dev: 0.26
    - Min: 0.0
    - Max: 1.0
  - No religion
    - N: 7350
    - Mean: 0.01
    - Std. dev: 0.11
    - Min: 0.0
    - Max: 1.0
  - Mother is Austrian citizen
    - N: 7350
    - Mean: 0.14
    - Std. dev: 0.35
    - Min: 0.0
    - Max: 1.0
### Cross-country analysis

**Summary statistics and variable descriptions**

<table>
<thead>
<tr>
<th>Description</th>
<th>( N )</th>
<th>Mean</th>
<th>Std. dev.</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prenatal maternity leave</td>
<td>689</td>
<td>5.08</td>
<td>2.42</td>
<td>0.0</td>
<td>8.7</td>
</tr>
<tr>
<td><strong>Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perinatal mortality</td>
<td>649</td>
<td>11.40</td>
<td>6.50</td>
<td>2.6</td>
<td>34.9</td>
</tr>
<tr>
<td>Neonatal mortality</td>
<td>666</td>
<td>7.02</td>
<td>5.23</td>
<td>0.9</td>
<td>28.7</td>
</tr>
<tr>
<td>Low birth weight</td>
<td>574</td>
<td>5.89</td>
<td>1.62</td>
<td>2.9</td>
<td>11.7</td>
</tr>
<tr>
<td>Maternal mortality</td>
<td>634</td>
<td>9.38</td>
<td>10.06</td>
<td>0.0</td>
<td>75.3</td>
</tr>
<tr>
<td>Total fertility rate</td>
<td>689</td>
<td>1.80</td>
<td>0.42</td>
<td>1.1</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>Control and interaction variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total population</td>
<td>689</td>
<td>11.66</td>
<td>13.69</td>
<td>0.2</td>
<td>60.5</td>
</tr>
<tr>
<td>Population aged ( \leq 14 )</td>
<td>689</td>
<td>0.20</td>
<td>0.04</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td>Population aged ( \geq 65 )</td>
<td>689</td>
<td>0.14</td>
<td>0.02</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Age at birth</td>
<td>669</td>
<td>28.02</td>
<td>1.64</td>
<td>24.5</td>
<td>31.4</td>
</tr>
<tr>
<td>Marriage rate</td>
<td>689</td>
<td>5.95</td>
<td>1.42</td>
<td>3.5</td>
<td>12.8</td>
</tr>
<tr>
<td>Female LFP</td>
<td>568</td>
<td>59.63</td>
<td>13.77</td>
<td>31.0</td>
<td>96.5</td>
</tr>
<tr>
<td>Male LFP</td>
<td>568</td>
<td>81.39</td>
<td>8.18</td>
<td>63.6</td>
<td>122.7</td>
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<tr>
<td>Agricultural share</td>
<td>584</td>
<td>0.09</td>
<td>0.07</td>
<td>0.0</td>
<td>0.4</td>
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<tr>
<td>Manufacturing share</td>
<td>573</td>
<td>0.31</td>
<td>0.06</td>
<td>0.2</td>
<td>0.5</td>
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<tr>
<td>Service share</td>
<td>573</td>
<td>0.60</td>
<td>0.10</td>
<td>0.3</td>
<td>0.8</td>
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<tr>
<td>GDP per capita</td>
<td>669</td>
<td>25.47</td>
<td>12.71</td>
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<td>87.7</td>
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<tr>
<td>Schooling years</td>
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<td>9.49</td>
<td>1.80</td>
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<tr>
<td>Labor share</td>
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<td>0.06</td>
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<tr>
<td>Hours worked</td>
<td>619</td>
<td>1.81</td>
<td>0.22</td>
<td>1.4</td>
<td>2.4</td>
</tr>
</tbody>
</table>

**Notes:** Statistics are based on a sample of 17 countries (Austria, Belgium, Czech Republic, Denmark, Finland, Greece, Hungary, Ireland, Iceland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovakia, Sweden) observed from 1970 to 2010.