V. Lauber, J. Storck: Helping with the Kids? How family-friendly workplaces affect parental Well-Being and Behaviour

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Outline

Theoretical considerations: childcare market

- x: consumption (composite good, $p_x = 1$)
- T: Total time (endowment)
- t_w: working hours
- t_c: hours of maternal care
- o_c: hours of other care
- δ : quality of other care
- $C(t_c, o_c, \delta)$: utility of children
- Utility of mothers:

$$U = U(x, t_w, t_c, C) \longrightarrow \max_{x, t_w, t_c, o_c}$$

- Constraints:
  - $T = t_w + t_c$
  - $T = o_c + t_c$
  - $x + p_c o_c = w t_w$
  - $o_c \leq \overline{o_c}$ (there is an upper limit of childcare provision)
- Optimum (interior): $U_{t_c} - U_{t_w} + U_C[C_{t_c} - C_{o_c}] = U_x[w - p_c]$
- Optimum (corner): $t_w = \overline{o_c}$

Theoretical considerations

Childcare Support can affect through three channels:

- **Price reduction in other care** (p_c)
  - Substitution effect: increase working time
  - Income effect: increase maternal care
  - Positively affects well-being, but job satisfaction is ambiguous
- **Increase the availability of childcare** $\overline{o_c}$
  - Positive effect on satisfaction, esp. job and care
  - Non-negative effect on working
- **Increase the quality of childcare** δ
  - Positive care satisfaction
  - Decrease maternal care (if marginal utility of work is high enough)

Data

- FiD, 2010-2013
- Families
  - With two parents and four children at most (no single parents)
  - Employed mother (no self-employment)
  - The youngest child is at most six (no school pre-treatment period)

Data

- FiD, 2010-2013
- Families
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- Variables of interest:
  - Childcare Support
    - ★ Facilities: daycare, homework supervision in the company, slot in non-in-house daycare centre
    - ★ Sponsoring childcare
  - Satisfaction: Life, Job, Care, Family
    - ★ Measured on a scale 0-10
  - Behaviour :
    - ★ Agreed and Actual Working Hours (hours per week)
    - ★ Daycare Hours (hours in formal childcare by the youngest child in the household)

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$$= \mathrm{E}_{P(\mathbf{X}^M)|CS=1}[\Delta Y^{NT}|P(\mathbf{X}^M), CS = 0]$$

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- Average Treatment effect on Treated

$$\beta_{ATT} = E[\Delta Y^T - \Delta Y^{NT}|CS=1, P(\mathbf{X}^M)] =$$

$$= \mathrm{E}[\Delta Y^T|CS=1] - E[\Delta Y^{NT}|CS=1, P(\mathbf{X}^M)] =$$
$$= \sum_{i \in G_T}[\Delta Y_i^T - \sum_{j \in G_{NT}} \omega(i,j)\Delta Y_j^{NT}]\frac{1}{n_T}$$

where n_T is the number of cases in the treatment group G_T.

Implementation

1. Estimate the model for programme participation

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- Three groups of characteristics
- Region of common support

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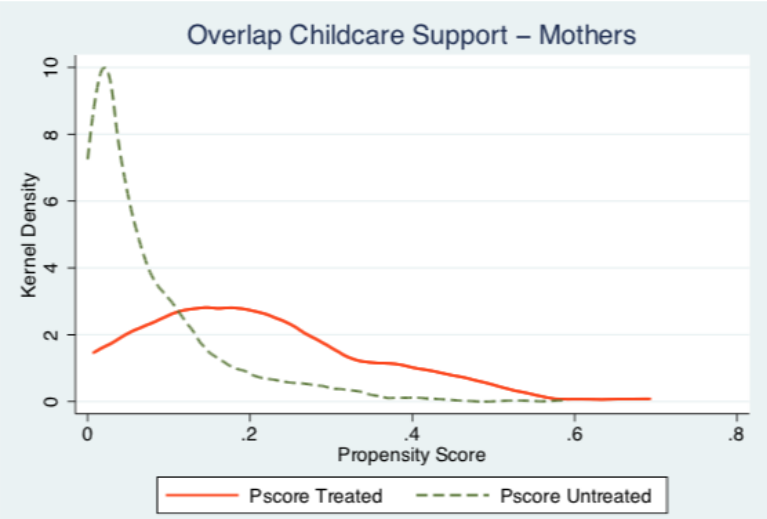

Implementation

2. Construct the matched outcome

$$E[\Delta Y^{NT} | CS = 0, P(\mathbf{X}^M)] = \sum_{j \in G_{NT}} \omega(P(\mathbf{X}_j^M)) \Delta Y_j^{NT}$$

- Local linear regression matching
- Balancing and common trend
- Bias adjustment: weighted regression
- Inference is based on analytical standard errors

Main results: Effects of Childcare Support - Mothers

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Effects of childcare support

	Satisfaction with...				Agreed Hours	Actual Hours	Daycare Hours
	Life	*Job*	*Care*	*Family*			
DiD with Bias Adjustment							
Childcare Support	0.231	0.498	0.541	0.128	0.240	1.186	0.309
	(0.140)*	(0.199)**	(0.259)**	(0.135)	(0.710)	(0.786)	(0.152)**
	[0.175]	[0.266]*	[0.312]*	[0.176]	[0.960]	[1.018]	[0.217]
Observations	939	919	801	939	934	930	939

Robust standard errors and bootstrap standard errors

Heterogeneous Effects - Pre-treatment Working Behaviour

- Low Work Hours: less than 20 hours weekly in pre-treatment (58 percent)
- Expectation:
  - Substitution effect is larger in LWH
  - Substitution effect and income effect cancel out in HWH, but higher care satisfaction
  - Job satisfaction might be ambiguous

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Marginal Effects of Childcare Support by Pre-treatment Working Behaviour

	Satisfaction with...				Agreed	Actual	Daycare
	Life	*Job*	*Care*	*Family*	Hours	Hours	Hours
DiD with Bias Adjustment							
Low Work Hours	0.499	−0.018	0.320	0.564	1.461	2.270	0.728
	(0.155)***	(0.276)	(0.334)	(0.173)***	(1.023)	(1.214)*	(0.293)**
High Work Hours	−0.033	0.291	0.709	0.066	−0.641	−0.101	−0.178
	(0.172)	(0.246)	(0.296)**	(0.212)	(0.560)	(0.747)	(0.152)
Observations	939	919	801	939	934	930	939

Heterogeneous Effects- Pre-treatment Career Preferences

- Low Career Aspiration: career opportunities are not important for their job choice (33 percent)
- Expectation: High Career Aspiration group reacts stronger

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	Satisfaction with...				Agreed Hours	Actual Hours	Daycare Hours
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DiD with Bias Adjustment							
Low Career Aspiration	−0.229	0.268	0.598	−0.172	−0.679	−0.308	−0.213
	(0.186)	(0.279)	(0.348)*	(0.200)	(0.769)	(0.884)	(0.205)
High Career Aspiration	0.399	0.636	0.329	0.498	1.047	2.620	0.589
	(0.151)***	(0.257)**	(0.264)	(0.168)***	(1.056)	(1.045)**	(0.217)***
Observations	939	919	801	939	934	930	939

Conclusion

- Childcare support is valued by mothers. Supports better family-work balance.
- Mostly in Low Working Hours and High Career Aspiration subgroups
- Increased working hours affect economic welfare
- Further findings:
  - Actual usage of Childcare Support
  - Availability of slots vs. financial support
  - Effects on fathers

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Theoretical Considerations

$$\mathcal{L} = U(x, t_w, t_c, C(t_c, o_c, \delta)) - \lambda_1(t_w + t_c - T) - \lambda_2(o_c - t_w) - \lambda_3(x + p_c o_c - w t_w)$$

FOC

1. $\mathcal{L}_x = U_x - \lambda_3 = 0 \Rightarrow \lambda_3 = U_x$
2. $\mathcal{L}_{o_c} = U_C C_{o_c} - \lambda_2 - \lambda_3 p_c = 0 \Rightarrow \lambda_2 = U_C C_{o_c} - U_x pc$
3. $\mathcal{L}_{t_w} = U_{t_w} - \lambda_1 + \lambda_2 + \lambda_3 w = 0 \Rightarrow \lambda_1 = U_{t_w} + U_C C_{o_c} - U_x pc + U_x w$
4. $\mathcal{L}_{t_c} = U_{t_c} + U_C C_{t_c} - \lambda_1 = 0 \Rightarrow$

$$\Rightarrow U_{t_c} - U_{t_w} + U_C C_{t_c} - U_C C_{o_c} - U_x w + U_x p_c = 0$$

$$U_{t_c} - U_{t_w} + U_C[C_{t_c} - C_{o_c}] = U_x[w - p_c]$$