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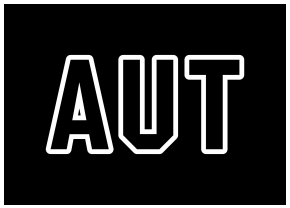

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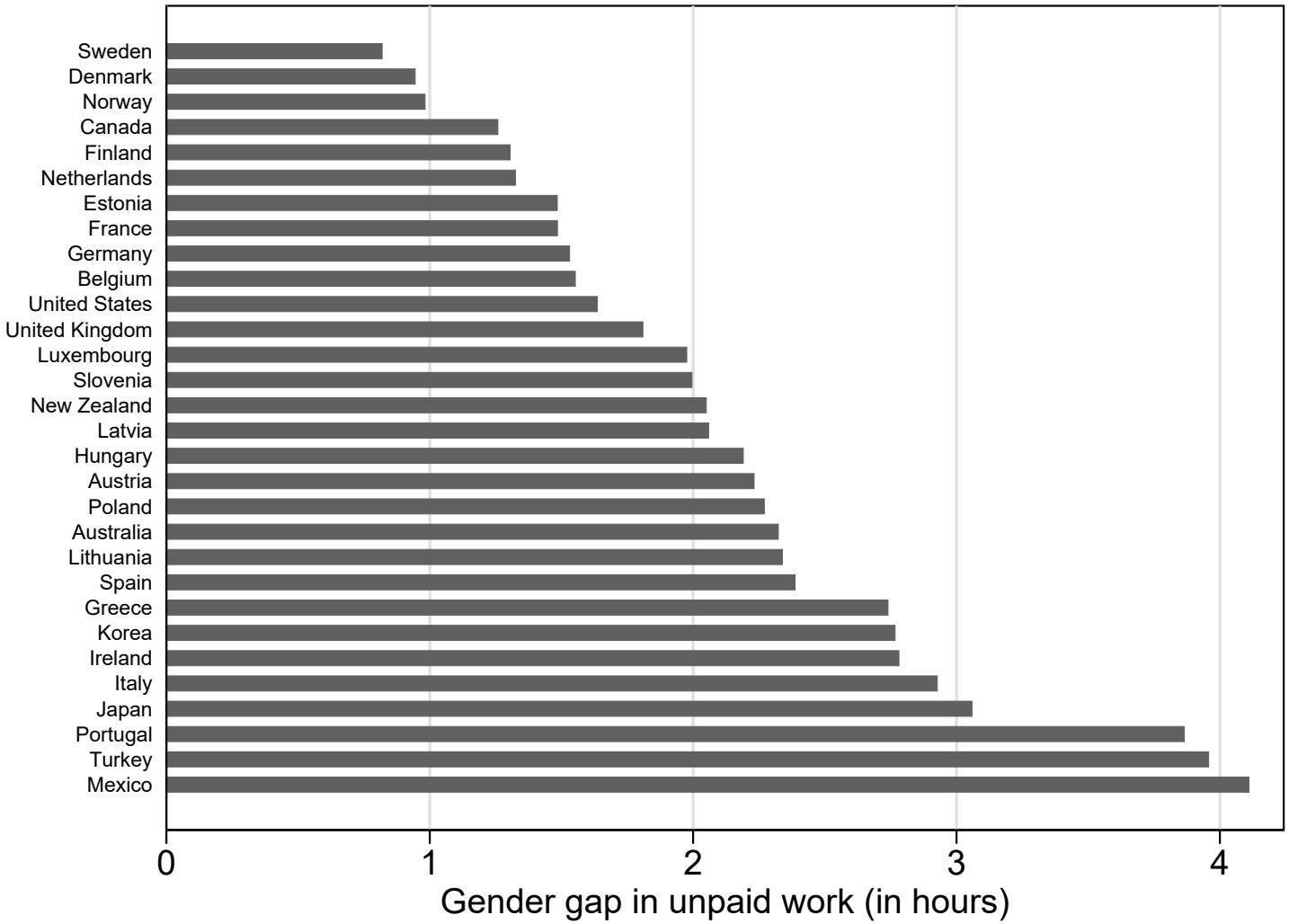
Does Unemployment Make Better Fathers? The Effect of Job Loss on Fathers' Time Investment in the Household

School of Economics and NZWRI Seminar,
Auckland University of Technology

March 18, 2020

Gender Gap in Unpaid Work



Source: OECD Time-Use Database, 2015 or nearest year.

Motivation

- Persistent gender difference in domestic work in virtually all countries, despite strong increase in female (and maternal) labor force participation and public child care coverage
- Changes in paternity leave regulation induced limited shifts in fathers' time investments + selection issue of paternity leave policies
- Little evidence on causal factors that actually shape and change the intra-household allocation of unpaid work

Q: How do negative employment shocks change paternal time investments?

Related Literature

- **Gender differences in time allocation:**
  - Coltrane (2000); Hook (2010); Sanchez and Thomson (1997); Bianchi (2000); Samtleben (2019)
- **Paternity leave and time investment:**
  - No long run effects of daddy months: Bünning (2015); Schober (2014); Ekberg et al. (2013)
  - Positive long run effect of leave take-up: Tamm (2019); Patnaik (2019); Pailhé et al. (2018)
- **Economic shocks and allocation of housework:**
  - Foster and Stratton (2018): parental unemployment and promotion, HLFS
  - Fauser (2019) and Voßemer and Heyne (2019): parental unemployment, SOEP
- Negative consequences of parental unemployment on children's outcomes: financial constraints and psychological distress
  - Mörk et al. (2014); Coelli (2011); Schaller and Zerpa (2019); Peter (2016)

Theory and Channels

1. **Time availability**
   - Job loss → more time available → partly directed to child care and housework
2. **Bargaining** (Lundberg and Pollak, 1996)
   - Job loss → lower bargaining power in division of domestic duties → relatively more domestic duties
3. **Gender role attitudes**
   - Job loss → exposure to nontraditional division of labor → change in gender attitudes → more equal division of domestic work
4. **Emotional bonding**
   - Job loss → father spends more time with child(ren) → stronger emotional bond → permanent change in time investment

Theory and Channels: Hypothesis

	Type of Work		Days	
	Childcare	Housework	Weekday	Weekend
Time Availability	✓	✓	✓	✗
Bargaining	✓/✗	✓	✓	✓
Gender Role Attitudes	✓	✓	✓	✓
Emotional Bonding	✓	✗	✓	✓

	Time Horizon		Partner Heterogeneity	
	Temporary	Persistent	Work. Hours	Earnings
Time Availability	✓	✗	✓	✗
Bargaining	✓	✗	✗	✓
Gender Role Attitudes	✗	✓	✓	✗
Emotional Bonding	✗	✓	✗	✗

This Paper: Contributions

- We study the **effect of paternal involuntary unemployment** on time allocated to **child care** and **housework**

- **Focus on child care:**
  To the best of our knowledge we are the first to do so
- **Event study approach:**
  We analyze short- and medium-run effects
- **Mechanisms:**
  We calculate heterogenous effects, and changes in effects over time
- **Partner spillovers:**
  If paternal time allocation changes, what happens with the partner?

Results in a Nutshell

- Paternal involuntary job loss increases domestic work on a regular weekday in the short run
  - Child care by 1.4 hours (90%) and
  - Housework by 0.7 hours (100%)
- Effects are more persistent for housework than for child care and limited to weekdays
- Positive long term effects are driven by fathers who remain unemployed or have a working partner
- Mothers react to changed paternal time allocation:
  - Working mothers persistently reduce child care and housework
  - Not working mothers increase time investments parallel to paternal increase

Data

- German Socio-Economic Panel, SOEP (Goebel et al., 2019)
- Representative longitudinal household survey conducted anually since 1984, sampling over 30,000 individuals in 11,000 households
- Possible to link fathers to spouse and child(ren) via the partner and child identifier
- Waves: 1992-2018

Data - Explanatory Variable

- **Job loss**
  Have you left your job since December 31, year XX?
  How did that job end?
  - **My place of work or office closed**
  - I resigned
  - **I was dismissed by my employer**
  - Mutual agreement with my employer
  - I completed a temporary job or apprenticeship
  - I reached retirement age / retired
  - I took a leave of absence(*Beurlaubung*) / maternity leave (*Mutterschutz*) / parental leave (*Elternzeit*)
  - I gave up self-employment / closed my business

Data - Dependent Variable

- **Time use weekday** (collected anually)
  What is a typical weekday like for you? How many hours per normal workday do you spend on the following activities?
- **Time use Sunday** (and Saturday, collected bi-anually)
  What is a typical day like for you? How many hours do you spend on the following activities on a typical weekday, Saturday, and Sunday?
- **Activities:**
  - Job, apprenticeship, second job
  - Errands
  - **Housework**
  - **Child care**
  - Care and support for persons in need of care
  - Education or further training
  - Repairs on and around the house, car repairs, garden work
  - Physical activities
  - Other leisure activities and hobbies

Descriptives

	Inv. job loss		No inv. job loss	
	Sample mean	s.d.	Sample mean	s.d.
Paternal outcomes				
Weekday Child care	2.29	(3.04)	1.60	(2.18)
Housework	0.94	(1.15)	0.70	(0.84)
Observations	8,205		70,864	
Sunday Child care	4.59	(4.68)	4.26	(4.53)
Housework	0.87	(1.08)	0.79	(0.99)
Observations	4,269		36,409	
Maternal outcomes				
Weekday Child care	6.06	(5.51)	6.22	(5.59)
Housework	3.21	(1.91)	3.02	(1.78)
Observations	7,901		59,362	
Sunday Child care	8.09	(6.12)	8.31	(6.31)
Housework	2.68	(1.84)	2.33	(1.63)
Observations	4,129		30,849	

Notes: The table provides descriptive statistics. Standard deviations are reported in parentheses.
Source: Own calculations based on SOEP (2019).

Data - Sample

- **Sample restrictions:**
  - Paternal age 18-65
  - At time of job loss:
    - Living together with partner and at least one child up to the age of 18
    - Not in education, self-employed, or retired
    - No parallel job loss of partner
  - Observed for at least two periods
  - Non-missing information on main outcome and explanatory variables
- **Final sample:**
  - 76,200 father-year combinations from 9,345 fathers observed for 8 years on average

Event Study Approach

$$y_{it} = \sum_{j=\underline{j}}^{\overline{j}} \beta_j b_{it}^j + \alpha_i + \theta_t + X_{it} + \epsilon_{it} \tag{1}$$

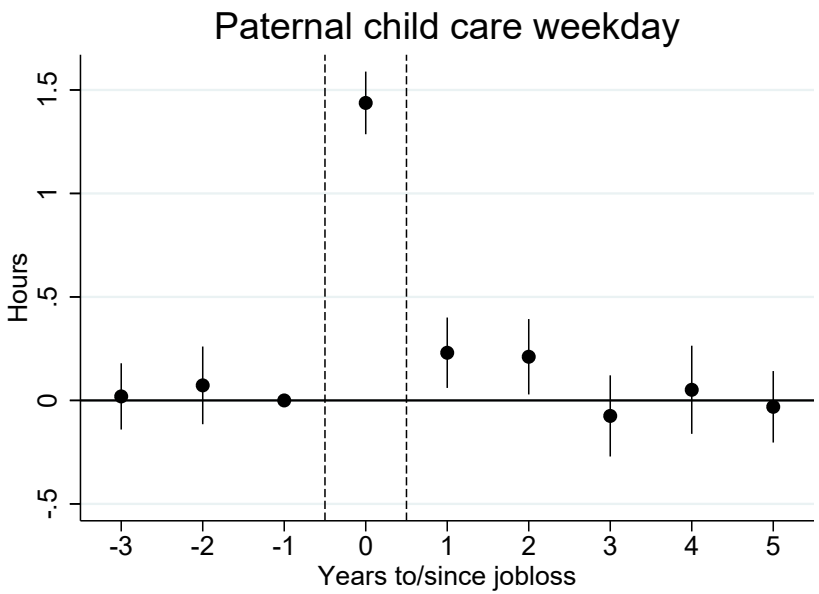
- y_{it} - outcome y of individual i at time t
- α_i - individual fixed effects
- θ_t - time fixed effects
- b_{it}^j - treatment indicator for an event happening $j \in [\underline{j}, \overline{j}]$ periods away from t
- Treatment indicators b_{it}^j are binned at the endpoints
- X_{it} - vector of control variables

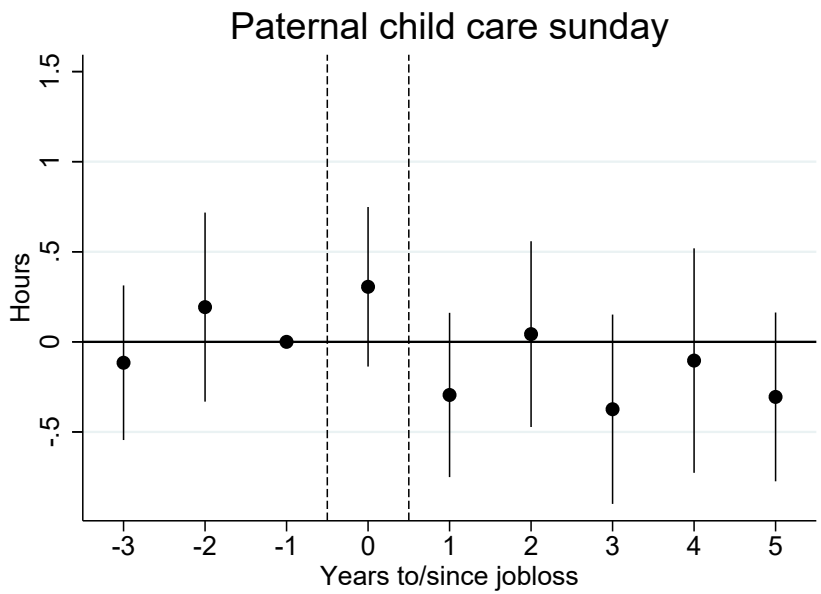
Data - Control Variables X_{it}

- **Spousal characteristics:**
  - age, employment status
- Child characteristics:
  - Youngest child: age, in daycare (D), in school (D), in allday care (D)
  - Number of children in household
- Co-determined characteristics:
  - Psychological distress: subjective well-being and health (physical and mental)
  - Financial constraints: household income

Descriptives

Main Results

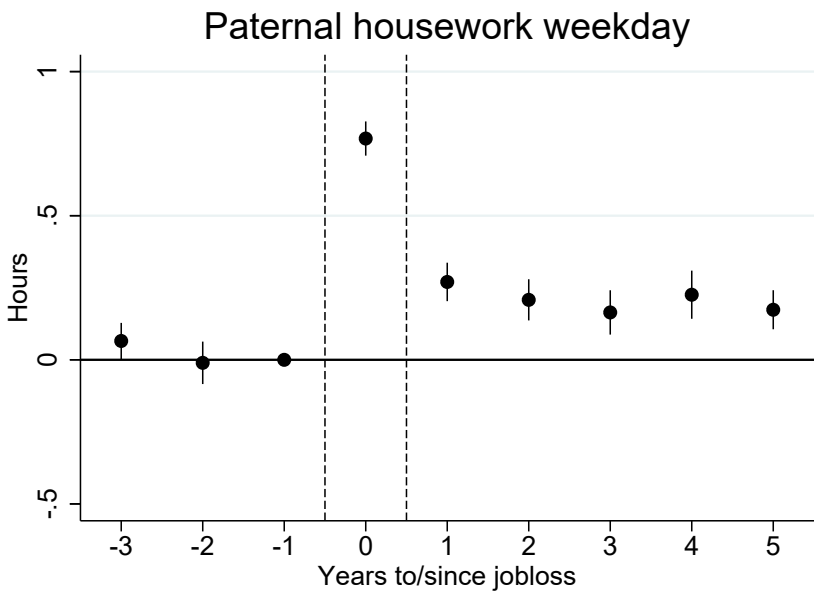


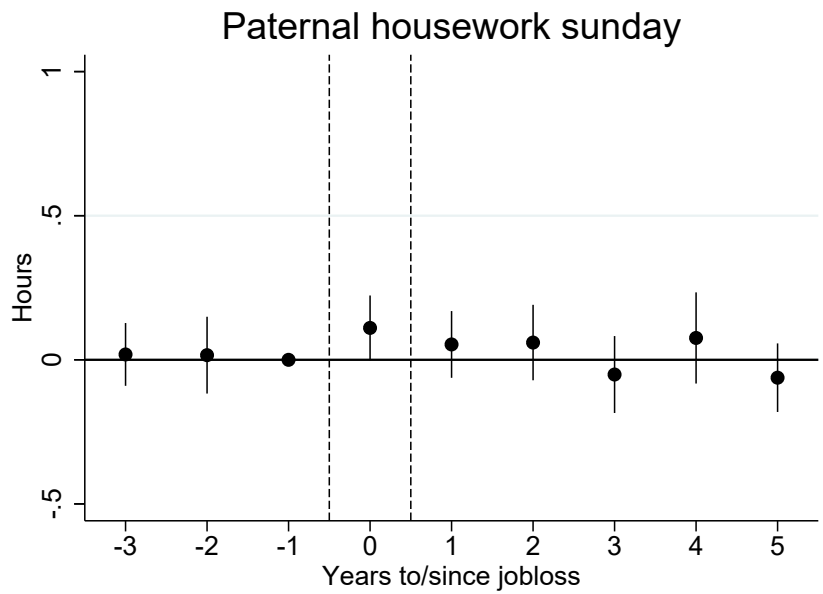


Notes: The figure plots coefficient estimates from an interaction of the involuntary job loss with indicators on the time difference to the event. The regressions include individual and year fixed effects and partner controls. The dashed lines indicate the timing of the job loss. Confidence intervals refer to the 95 percentile.
Source: Own calculations based on SOEP (2019).

Regression results

Main Results cont.





Notes: The figure plots coefficient estimates from an interaction of the involuntary job loss with indicators on the time difference to the event. The regressions include individual and year fixed effects and partner controls. The dashed lines indicate the timing of the job loss. Confidence intervals refer to the 95 percentile.
Source: Own calculations based on SOEP (2019).

Regression results

Heterogeneity: Employment Status

	Estimated treatment effect of job loss			
	Child care		Housework	
	Weekday	Sunday	Weekday	Sunday
1-2 periods post				
not working	0.957***	0.105	0.616***	0.156**
	(0.097)	(0.263)	(0.038)	(0.067)
working	-0.302***	-0.363	-0.022	-0.021
	(0.088)	(0.238)	(0.034)	(0.061)
3-4 periods post				
not working	0.725***	-0.170	0.553***	0.078
	(0.117)	(0.316)	(0.046)	(0.080)
working	-0.476***	-0.367	-0.028	-0.056
	(0.099)	(0.269)	(0.039)	(0.068)
Number of observations	76,200	39,502	76,200	39,502

Notes: The table reports treatment effect estimates of an involuntary job loss on paternal time allocation. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Source: own calculations based on SOEP (2019).

Heterogeneity: Child Age

	Estimated treatment effect of job loss			
	Child care		Housework	
	Weekday	Sunday	Weekday	Sunday
Job loss				
child age $<=$ 6	2.002***	0.510*	0.707***	0.053
	(0.092)	(0.265)	(0.036)	(0.067)
child age $>$ 6	0.759***	-0.032	0.838***	0.167**
	(0.098)	(0.278)	(0.038)	(0.071)
1-2 periods post				
child age $<=$ 6	0.195**	-0.082	0.195***	0.060
	(0.095)	(0.254)	(0.037)	(0.065)
child age $>$ 6	0.275***	-0.234	0.284***	0.049
	(0.092)	(0.248)	(0.036)	(0.063)
3-4 periods post				
child age $<=$ 6	-0.035	-0.219	0.174***	0.096
	(0.117)	(0.315)	(0.046)	(0.080)
child age $>$ 6	0.025	-0.305	0.196***	-0.071
	(0.100)	(0.271)	(0.039)	(0.069)
Number of observations	76,200	39,502	76,200	39,502

Notes: The table reports treatment effect estimates of an involuntary job loss on paternal time allocation. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Source: own calculations based on SOEP (2019).

Partner Interaction: Child Care

	Estimated treatment effect of job loss			
	Weekday		Sunday	
	Father	Partner	Father	Partner
Job loss				
partner not working	1.541***	0.787***	0.118	0.112
	(0.095)	(0.196)	(0.279)	(0.345)
partner working	1.282***	-1.387***	0.434	-0.906***
	(0.099)	(0.205)	(0.278)	(0.344)
1-2 periods post				
partner not working	0.148	0.815***	-0.191	0.445
	(0.095)	(0.198)	(0.259)	(0.321)
partner working	0.216**	-0.819***	-0.148	-0.577*
	(0.094)	(0.196)	(0.255)	(0.315)
3-4 periods post				
partner not working	-0.251**	0.806***	-0.656**	-0.288
	(0.114)	(0.238)	(0.312)	(0.387)
partner working	0.101	-0.859***	0.146	-0.833**
	(0.106)	(0.221)	(0.288)	(0.357)
Number of observations	66847	66847	34734	34734

Notes: The table reports treatment effect estimates of an involuntary job loss on paternal time allocation. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Source: own calculations based on SOEP (2019).

Partner Interaction: Housework

	Estimated treatment effect of job loss			
	Weekday		Sunday	
	Father	Partner	Father	Partner
Job loss				
partner not working	0.559***	0.298***	-0.020	0.159
	(0.036)	(0.068)	(0.070)	(0.110)
partner working	1.002***	-0.442***	0.223***	-0.327***
	(0.038)	(0.071)	(0.070)	(0.111)
1-2 periods post				
partner not working	0.122***	0.322***	-0.082	0.110
	(0.037)	(0.069)	(0.065)	(0.103)
partner working	0.337***	-0.423***	0.133**	-0.185*
	(0.036)	(0.068)	(0.064)	(0.101)
3-4 periods post				
partner not working	0.067	0.273***	-0.044	-0.169
	(0.044)	(0.082)	(0.078)	(0.124)
partner working	0.293***	-0.357***	0.021	-0.181
	(0.041)	(0.076)	(0.072)	(0.114)
Number of observations	66998	66998	34750	34750

Notes: The table reports treatment effect estimates of an involuntary job loss on paternal time allocation. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Source: own calculations based on SOEP (2019).

Differential Effects over Cohorts

	Estimated treatment effect of job loss		
	Job loss	1-2 periods post	3-4 periods post
Dependent variable	(1)	(2)	(3)
Paternal child care weekday			
1950-1959	1.393***	0.749***	0.379**
	(0.192)	(0.179)	(0.191)
1960-1969	1.373***	0.310***	-0.004
	(0.118)	(0.109)	(0.115)
1970-1979	1.229***	-0.242*	-0.264*
	(0.152)	(0.144)	(0.154)
1980-1989	3.337***	0.919***	0.406
	(0.314)	(0.300)	(0.312)
Number of observations	76,200		
Paternal child care Sunday			
1950-1959	1.605***	1.130**	0.587
	(0.514)	(0.473)	(0.506)
1960-1969	0.488	0.228	0.078
	(0.321)	(0.287)	(0.307)
1970-1979	-0.364	-0.911**	-1.044**
	(0.423)	(0.384)	(0.420)
1980-1989	1.316	0.742	1.630*
	(0.883)	(0.818)	(0.867)
Number of observations	39,502		

Notes: The table reports treatment effect estimates of an involuntary job loss on paternal time allocation. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Source: own calculations based on SOEP (2019).

Conclusion

- Paternal involuntary job loss increases domestic work on a regular weekday in the short run
  - Child care by 1.4 hours (90%) and
  - Housework by 0.7 hours (100%)
- Effects are more persistent for housework than for child care and largely limited to weekdays
- Positive long term effects are driven by fathers who remain unemployed ...
- ... and have a working partners
- Mothers react to changed paternal time allocation:
  - Working mothers persistently reduce child care and housework
  - Not working mothers increase time investments parallel to paternal increase

Thank you for your attention!

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Comments and Feedback are highly welcome.

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Descriptives

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	Sample			
	Inv. job loss		No inv. job loss	
	Sample mean	s.d.	Sample mean	s.d.
Household characteristics				
Number of children up to age 6	1.09	(1.31)	0.94	(1.22)
Number of children up to age 18	1.88	(0.96)	1.78	(0.90)
Net household income (month)	2561.57	(1021.66)	3603.28	(1991.89)
Number of observations	8,205		70,864	
Paternal characteristics				
Age	39.26	(8.24)	38.99	(9.70)
Married (D)	0.84	(0.37)	0.80	(0.40)
Vocational degree (D)	0.71	(0.45)	0.64	(0.48)
Academic degree (D)	0.09	(0.29)	0.25	(0.43)
No degree (D)	0.21	(0.41)	0.13	(0.34)
Migration background (D)	0.35	(0.48)	0.26	(0.44)
Subjective wellbeing	6.53	(1.85)	7.35	(1.59)
Physical health	50.69	(9.41)	53.25	(7.88)
Mental health	50.25	(9.40)	51.26	(8.84)
Number of observations	8,205		70,864	

Notes: The table provides descriptive statistics. Standard deviations are reported in parentheses.
Source: own calculations based on SOEP (2019).

Building the Empirical Model

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	Estimated treatment effect of job loss			
Dependent variable	Ind. and year fixed effects (1)	+ partner controls (2)	+ child controls (3)	+ co-det. controls (4)
Paternal child care weekday				
2 periods pre	0.089	0.109	0.111	0.107
	(0.103)	(0.104)	(0.104)	(0.151)
job loss	1.446***	1.457***	1.443***	1.437***
	(0.082)	(0.083)	(0.082)	(0.108)
1 to 2 periods post	0.189**	0.182**	0.199**	0.100
	(0.082)	(0.083)	(0.082)	(0.108)
3 to 4 periods post	-0.058	-0.079	-0.059	-0.026
	(0.092)	(0.093)	(0.093)	(0.122)
Sample mean	1.68	1.68	1.68	1.67
Number of observations	70,665	70,665	70,665	42,146
Paternal child care Sunday				
2 periods pre	0.247	0.270	0.248	-0.105
	(0.294)	(0.302)	(0.298)	(0.539)
job loss	0.373	0.413*	0.313	0.035
	(0.240)	(0.247)	(0.244)	(0.403)
1 to 2 periods post	-0.026	0.044	-0.049	-0.618*
	(0.223)	(0.229)	(0.226)	(0.358)
3 to 4 periods post	-0.155	-0.029	-0.181	-0.616
	(0.249)	(0.257)	(0.253)	(0.389)
Sample mean	4.34	4.34	4.34	4.26
Number of observations	36,153	36,153	36,153	17,654

Building the Empirical Model cont.

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Dependent variable	(1)	(2)	(3)	(4)
Paternal housework weekday				
2 periods pre	-0.018	-0.011	-0.016	0.018
	(0.040)	(0.040)	(0.040)	(0.059)
job loss	0.762***	0.765***	0.764***	0.766***
	(0.032)	(0.032)	(0.032)	(0.042)
1 to 2 periods post	0.244***	0.248***	0.247***	0.257***
	(0.032)	(0.032)	(0.032)	(0.042)
3 to 4 periods post	0.187***	0.190***	0.190***	0.196***
	(0.036)	(0.036)	(0.036)	(0.048)
Sample mean	0.72	0.72	0.72	0.75
Number of observations	70,665	70,665	70,665	42,146
Paternal housework Sunday				
2 periods pre	-0.004	-0.003	-0.008	-0.039
	(0.074)	(0.074)	(0.074)	(0.137)
job loss	0.080	0.083	0.082	0.073
	(0.060)	(0.061)	(0.061)	(0.102)
1 to 2 periods post	0.042	0.051	0.052	0.043
	(0.056)	(0.056)	(0.056)	(0.091)
3 to 4 periods post	-0.023	-0.017	-0.013	0.005
	(0.063)	(0.063)	(0.063)	(0.099)
Sample mean	0.80	0.80	0.80	0.83
Number of observations	36,153	36,153	36,153	17,654

Notes: The table reports treatment effect estimates of an involuntary job loss on paternal time allocation. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Source: own calculations based on SOEP (2019).

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