

Togetherness in the Household

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conditionally accepted at AEJ-Microeconomics

1. What do we study and why?

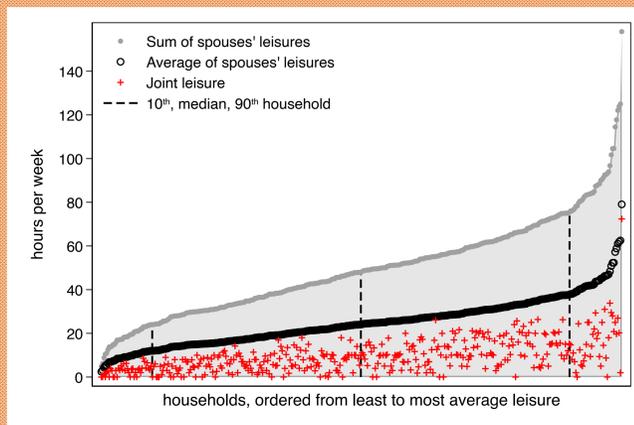
- Spending time together with a partner is a major source of gain from marriage (lots of empirical evidence across disciplines about this).
- But most models of household time use abstract from togetherness (exceptions are Fong & Zhang 2001; and Browning et al. 2021).
- As a result, we know very little about:
 1. how households value togetherness,
 2. what benefits and costs togetherness accrues,
 3. how togetherness interacts with other time uses.
- Our paper addresses precisely these points; our aim is to:
 1. study how couples with children allocate time across work, leisure, and childcare,
 2. characterize the costs & benefits of togetherness,
 3. estimate the value of togetherness in the data.
- Distinctive features of our paper:
 - we divide the time each spouse spends on leisure and childcare to:
 - **private**: time spent alone,
 - **joint**: time spent together with the partner.
 - Togetherness naturally requires spouses to **synchronize their schedules** to be physically together at the same time:
 - we give the decision-making spouses a choice over their hours of work and over the timing of such work.

2. Togetherness

- Our data and sample: Dutch data in 2009-12 (the LISS panel), couples with children up to 12 years old.

JOINT LEISURE

- First aspect of togetherness, leisure time spent together with the partner.



- Unlike most household surveys, we observe joint leisure separately from all other uses of time:
 - most couples (92%) have some joint leisure,
 - joint leisure is a large fraction of each person's overall leisure.

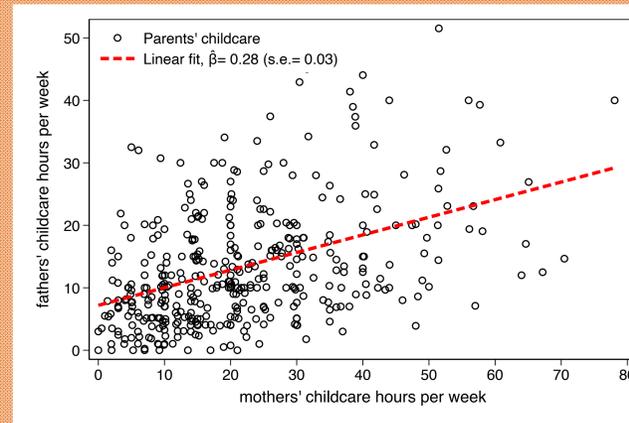
BENEFIT OF JOINT LEISURE

- **Companionship**
 - e.g. Becker 1973; Sullivan 1996; Hamermesh 2002; Qi et al 2017.

2. Togetherness (cont.)

JOINT CHILDCARE

- Second aspect of togetherness, childcare done together by both parents.



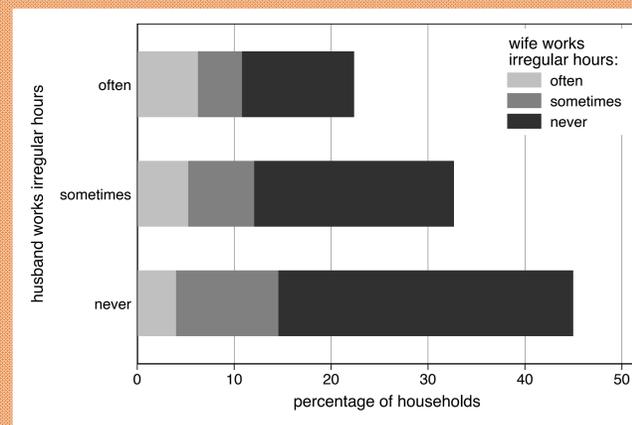
- We only observe each parent's overall childcare (private+joint):
 - only 2% of fathers do *not* do any childcare at all,
 - mothers' and fathers' hours positively correlated,
 - parents spend equal times on several childcare activities (see paper).

BENEFIT OF JOINT CHILDCARE

- **Child cognitive & noncognitive development** and **parental well-being**
 - e.g. Cano et al 2019; Flood et al 2020; Le Forner 2021.

COST OF JOINT LEISURE & JOINT CHILDCARE: forgone flexibility at work

- Togetherness requires both spouses to be together at the same time, to synchronize their schedules and be away from work at same time.
- But the spouses may differ in the timing of their market work – many work irregular and unpredictable hours limiting togetherness in the family.



- If irregular work **pays a premium** and workers do not control its precise timing, synchronization in the household may be impossible without:
 - restricting the labor market flexibility of one spouse,
 - forgoing the premium associated with irregular hours.

ADDITIONAL COST OF JOINT CHILDCARE: forgone specialization at home

- Young children require attention and care for given # hours. **A child time budget takes childcare by parents and external carers as inputs.**
- The parents must forgo 2 units of private childcare (1 by mother, 1 by father) to provide 1 unit of joint childcare by both.
- They need extra childcare, **perhaps from the costly market**, to fill the 1-unit gap in the child time budget caused by the provision of joint childcare.

3. Model and results

- A household consists of two spouses, $m = \{1, 2\}$, and young children. All time use variables below are choice variables.

- Each spouse has \mathcal{T}_m units of time after sleep and personal care, allocated to leisure L_m , childcare T_m , and market work H_m

$$L_m + T_m + H_m = \mathcal{T}_m$$

- Leisure and childcare have **private** and **joint** components, such that

$$l_m + l_j = L_m \quad t_m + t_j = T_m$$

- We divide market work into two types: regular R and irregular I , such that

$$h_m^R + h_m^I = H_m$$

- Irregular work is asynchronous between spouses (by assumption).

- **Collective household problem** (Chiappori 1988, 1992): choose private and joint time use, consumption, and market childcare to

$$\max \mu_1 U_1(l_1, l_j, C_P) + \mu_2 U_2(l_2, l_j, C_P) + \mu_K U_K(t_1, t_2, t_j, C_K)$$

where U_m is parental utility, U_K is child utilities, and the μ 's are utility weights.

- The problem is subject to **two togetherness constraints** reflecting
 1. **Forgone flexibility at work**: the more a spouse works in the market, the less togetherness the couple can enjoy

$$l_j + t_j \leq \mathcal{T}_m - (\max\{h_1^R, h_2^R\} + h_1^I + h_2^I)$$

2. **Forgone specialization at home**: child time budget reflecting trade-off between private and joint childcare.

$$t_1 + t_2 + t_j + \text{external childcare} = \text{\#hours child needs care}$$

REVEALED PREFERENCE CHARACTERIZATION & RESULTS

- We obtain necessary and sufficient nonparametric conditions that the data must satisfy if behaviour is rational and consistent with our model.

- **Pass rates: results suggest that togetherness is prevalent in the data**

pass rates: comparison of different collective models with time use		
model	pass rate (max. 1.0)	number of observations (max. 398)
(1) private times only	0.06	19
(2) private & joint times, no togetherness constraints	0.25	87
(3) private & joint times, full togetherness	0.67	250

- Value of togetherness: benefits and costs must be equal at equilibrium. **The togetherness constraints monetize the costs at (1) value of forgone earnings and (2) value of external childcare, respectively.**

- **Value of togetherness - how much a household is willing to pay for 1 hour of joint time over price of 1 hour of private time by each spouse:**

- 1.22 euro per hour -10% of wage- to convert private leisure to joint
- 2.08 euro per hour -17% of wage- to convert private childcare to joint

- **Togetherness and the gender wage gap:**

- model and results suggest **women likelier to forgo better paid irregular work** to align their schedules with their husbands' and enjoy togetherness,
- **women thus forgo earnings for the sake of togetherness**, which tends to reinforce the wage gap between women & men,
- the model thus **links the timing of female work with the gender wage gap**, a point made by Claudia Goldin (2014) and other scholars.

- **But togetherness mitigates intra-household inequality**: spousal resource shares less unequal between spouses vs. setting without togetherness.