Willingness to Care

Financial Incentives and Caregiving Decisions

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Motivation

- Population aging leads to increasing number of people in need of care ⇒ Demand for informal care rises
  - Germany: About 80% are cared for at home; mostly by relatives
- Will increased demand be accommodated by informal caregivers as family dynamics change?

⇒ Important for policy-makers to understand factors that influence decision to undertake care

- Political discussion: Leave benefits for informal carers
  - Improves reconciliation of work and care?
  - **Motivates people to get involved in caregiving, especially males/higher earners**?

Research Question

- **Question: Can financial incentives increase care participation?**
  - Lower wages increase probability of being caregiver (Carmichael et al. 2010)
  - Still unclear: Is it about opportunity costs or about cultural norms/expectations?
- Discrete-Choice-Approach: Microsimulation model with endogenous labor supply and caregiving decision

⇒ **How is care participation related to wage changes at the individual level?**

⇒ **How does care participation change when we compensate for opportunity costs from care?**

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Data

- Data: German Socio-Economic Panel 2019
- Focus on working-age individuals
- Caregivers: Spend at least one hour per week on caregiving duties
- Potential caregivers: Likely know person in need of care
- Care Participation:
  - Overall: 31%
  - Higher Earners: 27%
  - Lower Earners: 36%

Labor Supply Model with Caregiving Decision

- Discrete Labor Supply Decision
  - Individuals face choice between work hour categories (no work, part-time, full-time)
  - Gross hourly wage (estimated if not available) is used to calculate income of alternative categories
- Caregiving decision
  - For each work hour category choice for caregiving vs. not caregiving
- Leisure = Time endowment - Working time - Care hours

⇒ **Each category is characterized by: Income, Caregiving & Leisure**

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Utility Function

- Utility function for individual i and category j:
- C=Consumption, l=Leisure, h_c=Hours of Care

$$\begin{aligned} U_{ij} &= V_{ij} + \epsilon_{ij} \\ &= l_j\beta_{li} + C_{ij}\beta_{ci} + h_{c_j}\beta_{h_c} \\ &+ l_j^2\beta_{l^2} + C_{ij}^2\beta_{c^2} + X_i' S_j \beta_X + \epsilon_{ij}. \end{aligned} \tag{1}$$

- X_i = Gender, Age, East, HH-Size, Migration Background, Children
- S_j = observable attributes of alternatives

$\Rightarrow$ Measure of **preference for caregiving**

- Estimation via a mixed logit model estimation results

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Results

- Wage elasticities
  - 1% wage increase increases working hours and decreases informal care participation
  - ⇒ Opportunity costs are relevant for the caregiving decision
- Financially compensate for opportunity costs from care
  - Care hours are compensated with each individual's gross wage
    - No income difference between paid work and care hours
  - ⇒ Increase in care participation will depend on role of opportunity costs vs. norms

Compensate for opportunity costs

	Labor Participation (PP)	Working Hours (%)	Informal Care (PP)
All	-2.050 (-2.525, -1.667)	-2.556 (-3.044, -2.152)	15.176 (12.951, 17.289)
Gross Hourly Wage $<=$ p50	-3.054 (-3.815, -2.412)	-3.933 (-4.837, -3.154)	11.047 (9.381, 12.720)
Gross Hourly Wage $>$ p50	-1.042 (-1.260, -0.871)	-1.371 (-1.608, -1.189)	19.326 (16.645, 21.979)

Notes: Mean effects of a reform that compensates informal care hours with each individual's gross hourly wage. Numbers in parentheses show 90% confidence intervals obtained by parametric bootstrap with 500 draws.

- Care participation increases by 15 PP $\Rightarrow$ now at 46%
- Larger absolute reaction for higher wage group
- But, post-reform participation similar across wage groups
  - Higher earners indeed less likely to care *because* of opportunity costs $\Rightarrow$ When we account for opportunity costs, the gap in caring participation between wage groups vanishes

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Compensate for opportunity costs

- Different effect by wage groups persists for females and males results
  - Difference by wage groups not just driven by gender-wage-differences
- Effects do not differ by gender and age groups, despite different status quo care participation
  - Post-reform care participation still higher for females and for younger potential carers

Discussion

- Wage increases at the individual level are associated with decreases in informal care participation
  - (Female) care provision will decrease even further?
- Financial incentives largely increase care participation across several groups
- But: About half of potential carers remain unwilling to care even when care is compensated as paid work
- Limitations
  - Definition of potential carers
  - Only study extensive margin of care
  - Short-term effects

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Estimation Results - Mixed Logit Model

Variables	Coefficients	
Informal Care	0.151***	(0.04)
Net Income	0.002***	(0.00)
Leisure	0.904***	(0.12)
Net Income x Leisure	0.000	(0.00)
Net Income squared	-0.000***	(0.00)
Net Income x East	0.001***	(0.00)
Net Income x HH Size $>$ 2	0.000	(0.00)
Leisure squared	-0.004***	(0.00)
Leisure x Female	0.078***	(0.01)
Leisure x Age	-0.019***	(0.00)
Leisure x (Age squared/100)	0.021***	(0.00)
Leisure x Children in HH	0.062***	(0.01)
Leisure x Adults in HH	0.006	(0.00)
Leisure x Migration Background	0.046***	(0.01)
Informal Care x Female	0.116***	(0.01)
Informal Care x Age	-0.007***	(0.00)
Informal Care x Children in HH	0.024*	(0.01)
SD		
Net Income	0.001***	(0.00)
Leisure	0.119***	(0.02)
Log Likelihood	-5355	
Akaike's Information Criterion (AIC)	10747.496	
Observations	21486	

- First Derivative with respect to
  - Income: positive for 99% of individuals
  - Leisure: positive for 91% of individuals
  - Informal Care: positive for 25% of individuals

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1% Wage Elasticities

	Labor Participation (PP)	Working Hours (%)	Informal Care (PP)
All	0.090 (0.069, 0.114)	0.141 (0.114, 0.170)	-0.043 (-0.065, -0.023)
Gross Hourly Wage <= p50	0.171 (0.131, 0.218)	0.212 (0.166, 0.262)	-0.054 (-0.083, -0.027)
Gross Hourly Wage > p50	0.008 (0.005, 0.013)	0.080 (0.062, 0.097)	-0.033 (-0.058, -0.010)
Women	0.154 (0.114, 0.196)	0.232 (0.184, 0.284)	-0.066 (-0.101, -0.035)
Men	0.025 (0.016, 0.037)	0.066 (0.051, 0.082)	-0.020 (-0.042, -0.002)
Women & Gross Hourly Wage <= p50	0.255 (0.191, 0.327)	0.347 (0.270, 0.438)	-0.075 (-0.119, -0.035)
Women & Gross Hourly Wage > p50	0.053 (0.031, 0.078)	0.137 (0.104, 0.177)	-0.057 (-0.099, -0.019)
Men & Gross Hourly Wage <= p50	0.049 (0.031, 0.072)	0.061 (0.041, 0.084)	-0.013 (-0.036, 0.006)
Men & Gross Hourly Wage > p50	0.001 (0.001, 0.002)	0.069 (0.053, 0.086)	-0.028 (-0.059, 0.001)
Age <= 50	0.111 (0.080, 0.146)	0.161 (0.123, 0.201)	-0.046 (-0.084, -0.012)
Age > 50	0.080 (0.059, 0.103)	0.132 (0.104, 0.163)	-0.042 (-0.063, -0.022)

Notes: Mean Elasticities of a 1% increase in individual's gross wages. Numbers in parentheses show 90% confidence intervals obtained by parametric bootstrap with 500 draws.

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Opportunity Costs

	Labor Participation (PP)	Working Hours (%)	Informal Care (PP)
All	-2.050 (-2.525, -1.667)	-2.556 (-3.044, -2.152)	15.176 (12.951, 17.289)
Gross Hourly Wage <= p50	-3.054 (-3.815, -2.412)	-3.933 (-4.837, -3.154)	11.047 (9.381, 12.720)
Gross Hourly Wage > p50	-1.042 (-1.260, -0.871)	-1.371 (-1.608, -1.189)	19.326 (16.645, 21.979)
Women	-3.261 (-4.025, -2.618)	-3.704 (-4.611, -2.929)	13.915 (11.767, 15.985)
Men	-0.816 (-1.125, -0.535)	-1.603 (-1.947, -1.304)	16.462 (14.039, 18.894)
Women & Gross Hourly Wage <= p50	-4.665 (-5.901, -3.617)	-6.081 (-7.641, -4.692)	11.432 (9.576, 13.358)
Women & Gross Hourly Wage > p50	-1.856 (-2.257, -1.552)	-1.770 (-2.201, -1.424)	16.399 (14.007, 18.618)
Men & Gross Hourly Wage <= p50	-1.166 (-1.611, -0.770)	-2.178 (-2.699, -1.725)	11.179 (9.520, 12.849)
Men & Gross Hourly Wage > p50	-0.466 (-0.683, -0.298)	-1.045 (-1.320, -0.826)	21.748 (18.502, 24.968)
Age <= 50	-3.828 (-4.596, -3.149)	-4.655 (-5.496, -3.875)	17.703 (15.480, 19.940)
Age > 50	-1.192 (-1.643, -0.809)	-1.597 (-2.086, -1.215)	13.956 (11.679, 16.200)

Notes: Mean effects of a reform that compensates informal care hours with each individual's gross hourly wage. Numbers in parentheses show 90% confidence intervals obtained by parametric bootstrap with 500 draws.

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