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**The cost of informal care in Europe:
New estimates based on the well-being valuation method**

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1. Background and Research Question

- Costs and benefits of informal care to carers are often neglected in long-term care policy
- Focus of economic research: opportunity cost of informal care and contingent valuation
- Most existing studies cover only certain types of costs, and ignore possible utility from providing informal care.
- Using SHARE data, and the subjective well-being valuation method, we attempt a comprehensive estimate of the net cost of informal care:

What are the net shadow costs for an elderly caregiver to provide informal care?

2. Subjective Well-Being Valuation Method (1/3)

- monetary value/cost derived from the effect of the variable of interest on life satisfaction
- Approach widely applied, especially in environmental economics. Van den Berg et al (2004) apply it to informal care.

2. Subjective Well-Being Valuation Method (2/3)

Two Crucial Assumptions:

1. Respondents' stated life satisfaction accurately reflects overall experienced utility.
 2. Life satisfaction is systematically increasing in income.
- Some support for both in the literature; Easterlin paradox a concern.

2. Subjective Well-Being Valuation Method (3/3)

$$W_{ij} = \alpha + \beta_1 X_{ij} + \beta_2 y_{ij} + \beta_3 c_{ij} + \beta_4 D_j + \varepsilon_{ij}$$

W_{ij} : subjective well-being of individual i in country j

X_{ij} : vector of individual characteristics

y_{ij} : household income

c_{ij} : informal care provided

D_j : country dummies

The **net cost of an hour of care** is the marginal rate of substitution between informal care and income implied by the estimation, that is β_3 / β_2 .

3. Data

- Data from the second wave of the Survey of Health, Ageing and Retirement in Europe (SHARE), 13 countries
- Study sample of 29,543 respondents. 80% are between 57 and 80 years old.
- Carers in our sample defined as providing help to someone **outside the household** daily or weekly

4. Model (1/4)

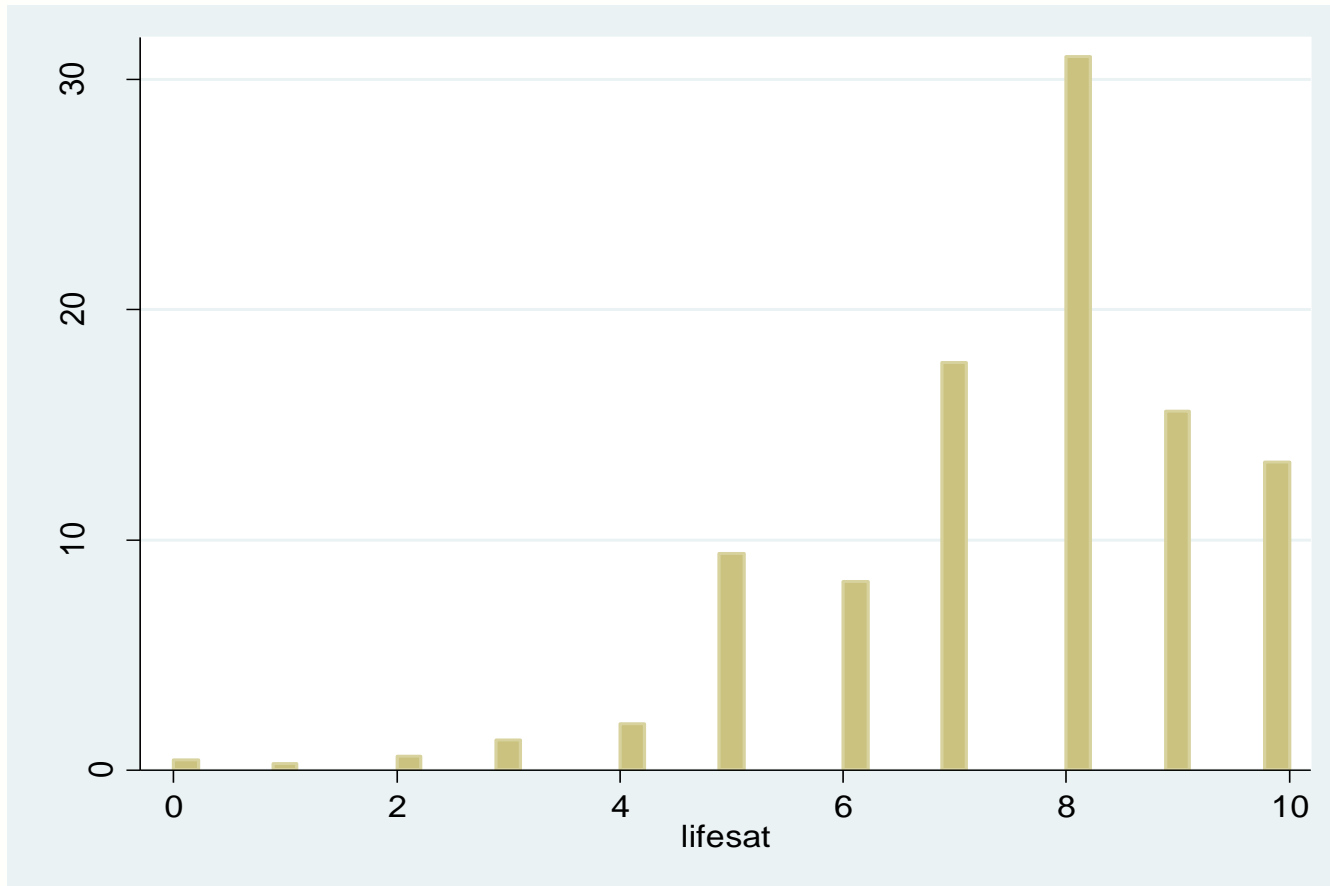
Estimate an ordered probit model, to avoid assuming cardinality

Variables:

- Life satisfaction (see below)
- Carehours provided (see below)
- Household income: in natural log form. Given unfortunate prevalence of missing values, use imputations of Christelis (2011)
- Several measures for health in dataset. Use grip strength measurements as a summary measure, (see Andersen-Ranberg, K., I. Petersen, et al. (2009))
- Carer's age, marital status and employment status

Model (2/4) - Dependent Variable

How satisfied are you with your life, on a scale from 0-10?



Model (3/4) - Informal Care Variables

Capture non-linear effect in three groups of care hours:

- weekly average provided in last year, *additionally*
- medium care hours (between 10 and 30/week) and
- high carehours: over 30/week

- additional binary variable indicating generation the carer and care recipient belong to
- most common are children caring for their parents (over 30% of regular carers)

Model (4/4) - Summary Statistics

		carers			non-carers		
		Q1	Q2	Q3	Q1	Q2	Q3
Yearly net HH-income	in Euros	16,975	31,375	116,650	22,115	49,900	244,400
		Mean (sd)	min	max	Mean (sd)	min	max
grip strength	health status proxy	34.9 (11.1)	1	86	34.5 (12.1)	1	84
Gender	(1=female)	0.64	0	1	0.54	0	1
N		5,288			24,255		

5. Results (1/4) – whole sample

Dependent Variable: Life Satisfaction

Regressor	Coefficient
Carehours	0.044**
Carehours (10-30)	-0.034**
Carehours (>30)	-0.044**
Health	0.014***
Carehours*Health	-0.001**
Carehours (10-30) *Health	0.0009***
Carehours (>30) *Health	0.001**
Log income	0.112***

Note:

Other sign. regressors include:

female***

unemployed***, disabled***

(ref. category: employed)

married***, divorced***,

widowed*** (ref. category: single)

Coefficients are positive/negative and significant at 10% level*, 5% level**, 1% level***

n=29.471

5. (2/4) Results – carers only

Dependent Variable: Life Satisfaction

Regressor	Coefficient
Carehours	0.003
Carehours (10-30)	-0.002
Carehours (>30)	-0.003
Health	0.012***
Log income	0.136***
Care recipient younger	-0.053*
Care recipient from same generation	-0.069***

n=5,288

Note:

Other regressors include:

female***

unemployed***, disabled***
(ref. category: employed)

married***, divorced***,
widowed*** (ref. category: single)

Coefficients are positive/negative and significant at 10% level*, 5% level**, 1% level***

5. Results (3/4) – Shadow cost calculations

- Median low-intensity carer:
values care at €2.60/hour (€137 for an extra hour each week over a year)
- Similar carer with three units lower grip strength is expected to derive an additional €1/hour
- For median carer providing 25 hours a week care is valued at about €1.50 / hour

5. Results (4/4) – Shadow cost calculations

Examining **carers only** ...

- implied shadow values are smaller, but still positive;
- care (for someone providing less than ten hours a week) valued at about € 1.20/hour
- Relative to caring for someone older (e.g. a parent) carers in the same generation as care recipients have much lower life satisfaction - about €1.600/year

6. Discussion

- Strong indication of net benefits of providing informal care to many in this group of out-of-home carers
- In the model for the carer subsample, carehours show a tendency to significance; no change in the patterns observed for the full sample.
- Health status may interact with care-giving in complex ways. Certainly an issue for further study.

- Crucial limitation: no data on care recipient characteristics (especially health status)
- issue of missings in income
- issue of intra-household carers to complete the picture

Thanks for listening!

If you have further questions, please contact

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