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Personal Social Services Research Unit

Session: Informal carers

White room, 11:40-13:00

Is what I give worth what I would pay for?

Quantitative and qualitative evidence for informal caregivers providing assistance to French community-dwelling elderly

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1 Introduction

The informal caregiver, at the very core of the human assistance supplied to impaired and/or dependent people

Both obvious and invisible

A strong implication in the personal assistance for daily activities...

... which does not appear in the official accounts of impairment or dependence

And yet, represents in France

6.5 (experts' evaluation) - 11.9 million care hours (respondents) to people ≥ 60 years living in the community*

487,000 of 692,000 FTE required to satisfy the declared needs*

63% (6.1 of 9.6 billion €) of the received assistance reported in 1999

[Paraponaris et al, EJHE, 2012]

70% (11.0 of 15.6 billion €) of the received assistance reported in 2008*

**Source: Health and Impairment Survey, 2008; authors' computations*

1 Introduction

3 main ways to assess the economic value of informal care to impaired and/or dependent people

[Koopmanschap et al, PE, 2008; Smith et al, HE, 1994]

Proxy goods [van den Berg et al, EJHE, 2004]

Monetarisation of informal care hours with the price of a market substitute (i.e. average or legal minimum hourly wage)

Opportunity costs [van den Berg et al, SSM, 2006]

Monetarisation of informal care hours with caregiver's own hourly wage

Contingent valuation methods (CVM)

[Klose, HP, 2006; Smith, HE, 2003; van den Berg et al, HE, 2005]

Reveal individual caregivers' preferences

Willingness to Pay (WTP) and to Accept (WTA) as indicators of the importance given by caregivers to the care they provide

1 Introduction

Aims of the paper

Assessing informal caregivers' WTP in the French case

Participation of caregivers to the survey

Amount of WTP

Adapting the estimation strategy to the data

Controlling for non-response (*protest*) in WTP estimation

Disentangling *true* (WTP=0) and *false* (*protest*) zeros

Feasibility of CVM in a large-scale survey on informal caregivers

First attempt in France

Lessons to learn for future surveys

2 Data

Health and Impairment Survey, HIS (INSEE, 2008)

[Bouvier, 2011]

Representative sample of 29,931 individuals (age: 0-108)

4,678 people ≥ 75 living at home

Standardized questionnaire with face-to-face interviews (CAPI)

Socio-demographic characteristics: gender, age, education, household, income...

Health and disability : reported health, chronic diseases, cognitive functions

Type of care received: informal, formal, mixed, no care

Proxy respondent

Informal Caregivers Survey, ICS (DREES & INSEE, 2008)

5,040 individuals (caregivers: 16-91 years, recipients: 5-106 years)

1,356 informal caregivers (caregivers: 17-91) caring for 1,159 people ≥ 75 who receive assistance with daily activities

Standardized questionnaire with face-to-face interviews (CAPI)

Socio-demographic characteristics: Gender, age, matrimonial status...

Care hours provided per day and types of care

Consequences of care on health, work, leisure, relationships,...

2 Data

Informal Caregivers Survey, ICS (DREES & INSEE, 2008)

WTP question

'Imagine that you could be replaced for one hour for the care you provide to [name of the care recipient].

What is the maximum amount that you would be willing to pay for this care hour?

Before answering, just keep in mind that this amount would correspond to an expense in your budget'.

No answer

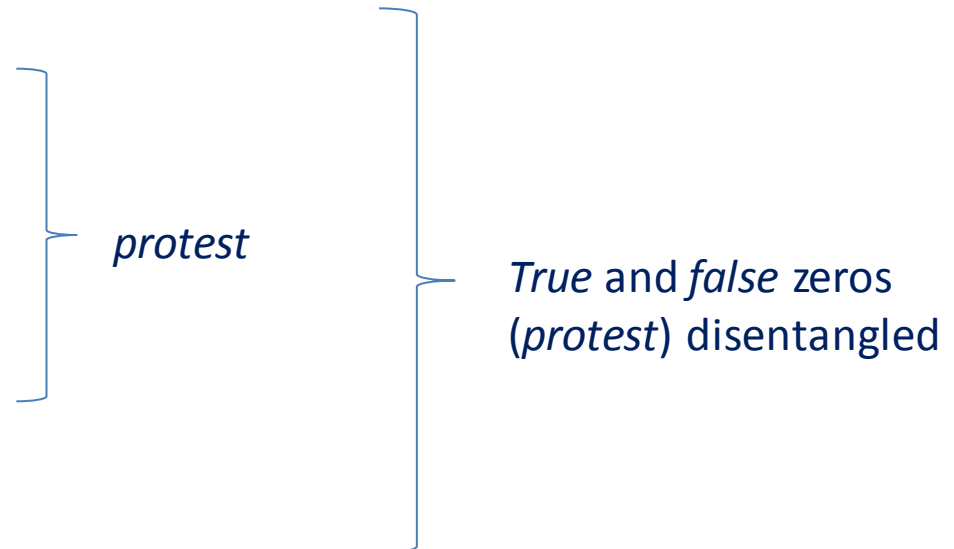
has not to pay

cannot pay

cannot be replaced

never thought about it

other



Positive or null value

Payment card

2 Data

ICS qualitative post-survey

Open interview

- Understanding of the ICS questionnaire

- Difficulties with the format and phrasing of questions

- Reasons of protest

- Benchmarks used to give a value

Selection of respondents

- 21 respondents representing each category of respondents

- Various geographical areas

Administration

- Audio recording and thematic transcription

- Mean duration: 50 minutes

3 Model

Heckman's two steps estimation strategy

(1) Selection equation $Z_i^* = W_i\alpha + u_i$

(probit estimation)

with: Z_i^* latent unobserved normally distributed variable

$$Z_i \quad \text{realisation of } Z_i^* \quad \begin{cases} Z_i = 1 \text{ if } Z_i^* \geq 0 \\ Z_i = 0 \text{ if } Z_i^* < 0 \end{cases}$$

(2) Outcome equation $Y_i^* = X_i\beta + v_i$

(OLS estimation)

with: $Y_i = Y_i^*$ if $Z_i = 1$

Y_i is unobserved if $Z_i = 0$

W, X : caregivers' and care recipients' characteristics

Independence of the error terms $\begin{cases} H_0: \rho = \text{corr}(u, v) = 0 \\ H_1: \rho \neq 0 \end{cases}$

If H_0 rejected:

two-steps estimation strategy is justified

WTP value has to be estimated conditionally to the probability of having given a value (not having protested)

Inverse of Mill's Ratio (IMR) λ gives the impact of omission of (1) when estimating (2)

4 Results

Sample description

Caregivers (n=1,356)

1 out of 5 respondents < 50 years, 2 out of 5 \geq 65 years

Female: 61%

Child: 51%, spouse: 27%, other: 22%

45% in the same household, 17% \geq 10 km away

No degree: 20%, \geq A-level: 26%

Retired: 49%, employed: 41%

Good or very good health status: 58%

Mean income: 1,480€/month

Tiredness: physical 37%, mental: 33%, depression: 14%, stress: 35%

Care recipients (n=1,159)

35% \geq 85 years

Female: 70%

Good or very good health status: 38%

Number of informal carers (mean): 2.3

Number of formal carers (mean): 1.0

Mean income: 1,200€/month

4 Results

Sample description

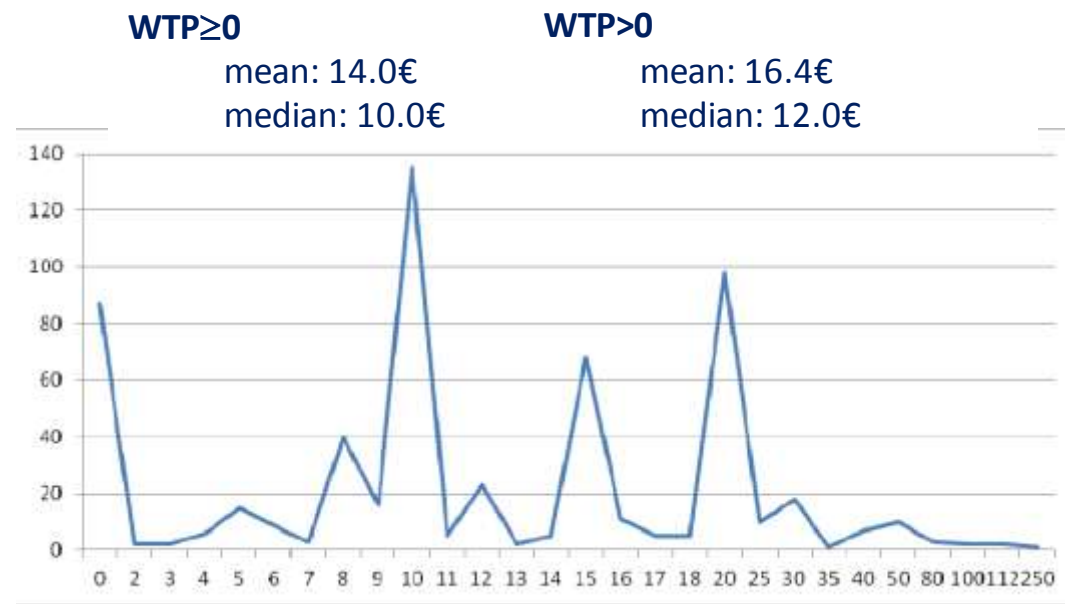
1,356 respondents

765 protests (56.4%)

591 positive or null values

504 responses > 0 (37.2%)

87 responses = 0 (6.4%)



Protest significantly associated with caregiver's

gender (female)

position (spouse, other than spouse and child)

job status (retired)

mental tiredness, depression and stress

WTP values associated with caregiver's

age (-)

position (spouse: - , other than spouse or child: +)

education (\geq A-level: +)

job status (employed: +)

Health status (very good or good: +)

No association with care recipient's characteristics

4 Results

Validity of the two-steps estimation strategy

Null-hypothesis of no-correlation: $\rho = 0$ rejected

$\rho = .950$, LR-statistic=100.2, $p = .000$

Omitted variables in selection equation (protest) negatively correlated with omitted variable in outcome equation

Selection equation and outcome equation to be estimated *sequentially* and *not separately*

Inverse of Mill's Ratio $\lambda = -1.429$, t-statistic=-22.3, $p = .000$

Parameter estimates downward biased if λ not included the outcome equation (WTP estimation)

4 Results

		p (WTP ≥ 0) (n = 1,356)
Characteristics of informal caregiver		
Age	<50	Ref
	50-64	-21%
	≥65	-38%
Gender	Male	-
	Female	Ref
IC is the...	Spouse	+32%
	Child	+42%
	Other	Ref
Distance	Null	Ref
	<10 km	-
	≥10 km	-
Education	No degree	-
	<A-levels	-
	≥A-levels	Ref
Income	< Median	+19%
	≥ Median	Ref
Physical fatigue	Yes	-
	No	Ref
Moral fatigue	Yes	+18%
	No	Ref
Depression	Yes	+36%
	No	Ref
Stress	Yes	-
	No	Ref

		p (WTP ≥ 0) (n = 1,356)
Characteristics of care recipient		
Age	<85	Ref
	85+	-
Gender	Male	-
	Female	Ref
Income		-
Health status	Very good / good / fairly good	Ref
	Bad / very bad	-
Number of Informal carers		-4%
Number of formal carers		-

Selection equation.

Probability to give a positive or null value for WTP (no protest)

4 Results

Characteristics of informal caregiver		p (WTP ≥ 0) (n = 1,356)	log (WTP+1) (n = 591)
Age	<50	Ref	Ref
	50-64	-21%	-
	≥65	-38%	+60%
Gender	Male	-	-
	Female	Ref	Ref
IC is the...	Spouse	+32%	-43%
	Child	+42%	-40%
	Other	Ref	Ref
Distance	Null	Ref	Ref
	<10 km	-	-
	≥10 km	-	+72%
Education	No degree	-	-25%
	<A-levels	-	-25%
	≥A-levels	Ref	Ref
Income	< Median	+19%	-16%
	≥ Median	Ref	Ref
Physical fatigue	Yes	-	-
	No	Ref	Ref
Moral fatigue	Yes	+18%	-24%
	No	Ref	Ref
Depression	Yes	+36%	-36%
	No	Ref	Ref
Stress	Yes	-	-
	No	Ref	Ref

Characteristics of care recipient		p (WTP ≥ 0) (n = 1,356)	log (WTP+1) (n = 591)
Age	<85	Ref	Ref
	85+	-	-
Gender	Male	-	-
	Female	Ref	Ref
Income		-	+0,02%
Health status	Very good / good / fairly good	Ref	Ref
	Bad / very bad	-	-
Number of informal carers		-4%	-
Number of formal carers		-	-

Selection equation.

Probability to give a positive or null value for WTP (no protest)

Outcome equation.

Estimation of the WTP value (log (1+WTP))

4 Discussion

WTP value hardly comparable to values in other studies

Gustavsson, IJGP, 2010 (Alzheimer)

GB (n=104): 3.99€, Spain (n=150): 4.6€, Sweden (n=113): 2.24€, USA (n=150): 5.47€

De Meijer et al, HE, 2009

Netherlands (n=746): 9.13€

van den Berg et al, HE, 2005 (rheumatoid arthritis)

Netherlands (n=114): 7.8€

WTP value close to the market equivalent price

WTP mean value=14.0€ (16.4€ if WTP>0)

Legal minimum hourly wage= 12.42€ (including employer's social security contribution, 2008)

Whatever caregivers' age, gender or employment status, reference to a market price, especially when formal care is supplied [van Exel and Brouwer, SSM, 2006]

"How many is a working hour worth today? How many do we earn with SMIC [French legal minimum wage] today? We would pay the SMIC; it would already be fine." Marie-Jeanne, 76, caring for her spouse

"A house cleaner might earn the SMIC; so 10 euro per hour". André, 61, retired artisan, caregiver.

"There are rates; there is the SMIC". Monique P, 52, old daughter caregiver

4 Discussion

Marginal thinking not always adapted

Wording hardly understandable by old caregivers : age positively associated with protest

[Mørkbak et al. 2012]

“Every day, I am with my husband, night and day”. **Marie-Jeanne**

“Night and day, I take care of him all the time”. **Monique C, 66, assists her spouse, 77, paralyzed on one side**

“I am not interested in being replaced for one hour. What can I do in one hour?”. **Monique C**

“One hour would not be sufficient at all. That is the problem: what can we do in one hour?”. **Claude, gives care to her mother**

“To be honest, one hour is like nothing. I would not pay for one hour because it is like nothing. What can I get with one hour?”. **Marguerite, 57, caregiver**

“One hour is like nothing”. **Angèle, auxiliary nurse, Spanish migrant, takes care of her mother**

But age is also associated with higher WTP

[Koopmanschap et al, HP, 2004; van Exel et al, 2008]

“From time to time, I think that caregivers should be helped, could go out or leave”. **Renée, 52, helps her mother**

“It is necessary that caregivers can hand over to others”. **Claude**

④ Discussion

Reference to market value hardly understandable for *natural* caregivers

“[Care] is natural. I do not do it by duty, I do it naturally”. **Marie-Jeanne**

“We are married for 50 years. So, it is normal, it is my job, I have to do it. Because I get married in sickness and in health”. **Marcel, 78, cares for his spouse**

“I think that it comes to children to take care of their parents”. **Claude, takes care of her mother**

“We did everything. We never had nurses. We wanted to assume”. **Angèle**

Long-term care, a non-homogenous good

“What you say is puzzling since it is a very general question. It is not very easy to assess all the activities we help to carry out”. **François, gives care to her mother aged 84**

Internalisation of care recipients’ preferences by caregivers

“[my mother] would have preferred being cared by one of her children rather than someone outside the family”. **Renée**

4 Discussion

WTP as expression of care burden

[Cannuscio et al, SSM 2004; Sherwood et al, JAH, 2005; Coe et al, HE, 2009]

“I need to go out one day in a week, otherwise I would become crazy”. **Monique C**

“It is priceless. One cannot calculate it. It would cost hundreds of euro and even though, we won't be paid enough because we painfully suffer”. **François**

“I began breaking up nervously and physically. I said: ‘I have had it’”. **Claude**

WTP as revealing financial conditions

[van den Berg et al, HE, 2005]

WTP indexed on household income

“We would pay the SMIC; it would already be fine. We cannot pay more”.

Marie-Jeanne

“we would not be able to pay more [than what they already pay – about 5 euro per hour]”. **Claude, unemployed**

“I would have paid the required price, because I can afford to pay someone for some hours in a week”. **Robert, 92, gives care to her wife**

WTP as an opportunity cost

“In the past, when I had a job, I earned much money; so one hour accounted much for me. Now I am retired. It is not as important”. **André**

“The care we give to someone in the family circle has to be balanced with all the things of our life that we have to put aside » **Monique P**

5 Conclusion

Limits

Usual CVM caveats

values are constructed in a hypothetical context, so that informal caregivers could report higher amount that they would have given in a real situation

[de Meijer et al, HE, 2010]

No distinction between daily activities (non-homogeneity)

Omitted variables

caregivers' motivation (altruism, gift, reciprocity), care recipient wealth, ...

Main results

CVM feasible in a general informal caregivers population survey if adapted (wording of questions, differentiation of activities, variable hourly amounts)

WTP values associated with usual socioeconomic variables (age, household composition, income, use of formal care, etc)

WTP gives reliable microeconomic benchmarks for macroeconomic estimates of informal care



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