



Sociaal en Cultureel Planbureau



**The use of paid and unpaid elderly care in different health care systems:  
A micro analysis of differences  
between European regions**

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## Different oasis towns



Douz



Tozeur

- Both: many and very fine dates
- Tozeur: profusion of fruits and vegetables
- Both: many springs
- Tozeur: water distributed by complex system



## Different systems?



Douz



Tozeur

- Is abundance of fruit and vegetables result of ingenious watering system?
- Result of more fertile soil or better equipped workers?
- Different system of different endowments?
- Differences due to behaviour and existing norms.



## Different systems?



Douz



Tozeur

- Do tomato plants keep water and do dates provide shade?
- Do tomatoes and dates reinforce each other's growth or competitors?
- Use of formal and informal care: substitutes or complements?



## Motivation

- The Netherlands is moving from system in which the government is responsible for care towards a system in which more responsibility lies with the family
  - *What could be the consequence of this policy measure for the use of informal care and the use of formal care?*
- Expected reduction in supply of informal care due to ageing and lessening social ties, envisioned higher female employment.
  - *To what extent will this result in reduction of the use of informal care and increase in the demand for formal care?*



## Outline

- Country differences with respect to who is responsible for meeting care needs
- Simultaneous model of formal and informal care
- SHARE-data
- Simulations:
  - How much will the use of formal and informal care change if the Northern European system is replaced by a Southern European one?
  - How much will the use of informal care decrease if the supply of informal care is reduced?
- Conclusions



## Care systems: responsibility for care

Disabled elderly have a right on public care, but who bears the primary responsibility?

Based on institutional differences:

### **Scandinavian model**

individual, if unable the government  
large responsibility of government

### **Continental model**

household, if unable the partner and children living at home

### **Mediterranean model**

extended family, if unable also children living outside household  
small responsibility of government



## Classification of care systems

Based on institutional set-up: classify 3 types of countries:

### **Scandinavian model**

Sweden, Denmark, Belgium, The Netherlands

### **Continental model**

Germany, Austria, France

### **Mediterranean model**

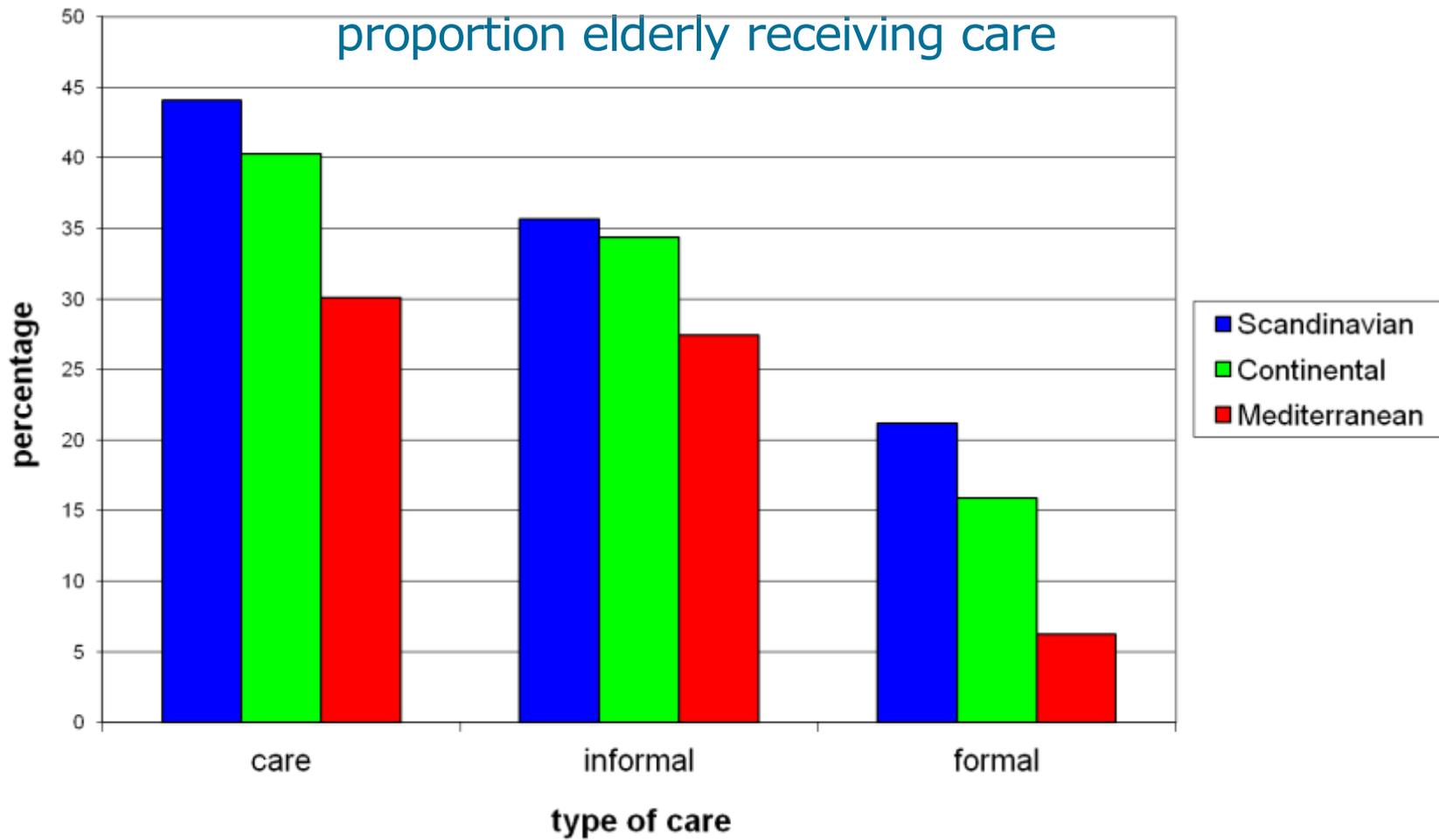
Greece, Italy, Spain



## Data

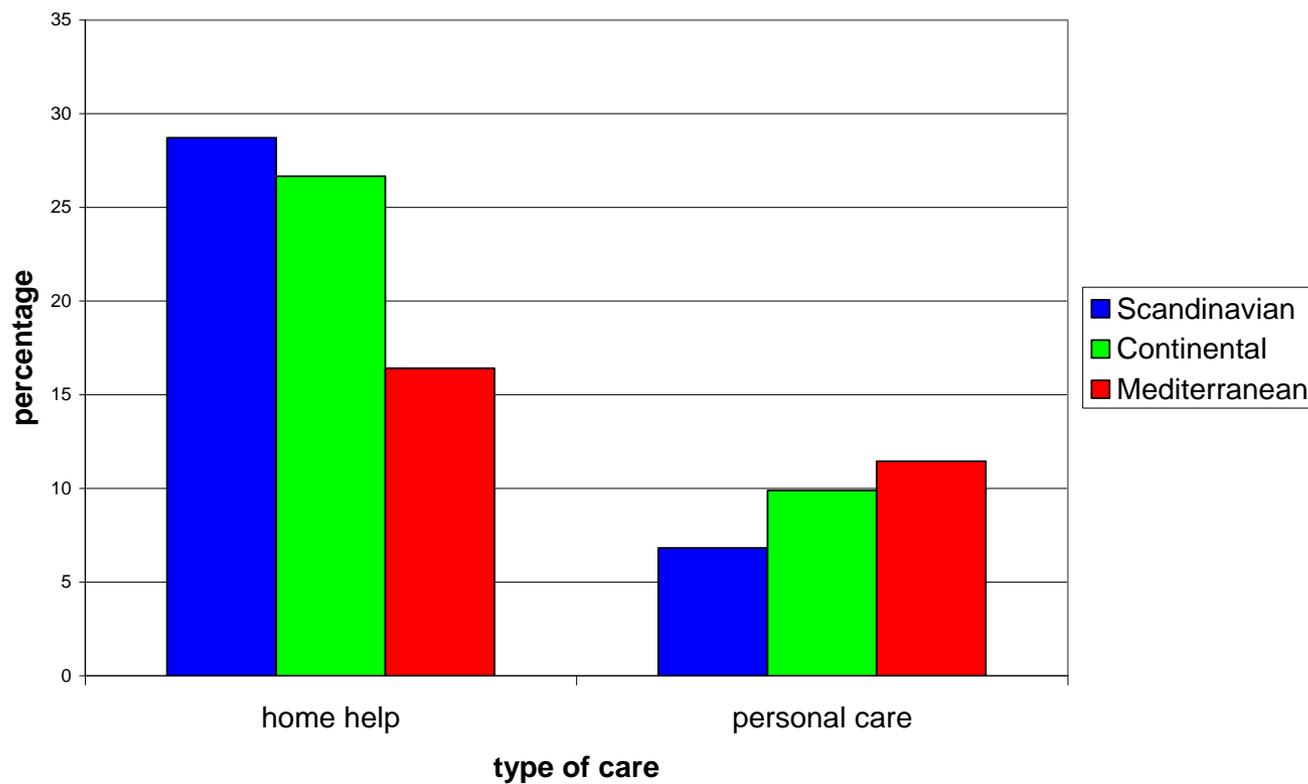
SHARE (Survey of Health, Ageing and Retirement in Europe), 2004

- 11,000 individuals 50 years or older and with at least one minor disability
- endogenous variables:
  - Formal care = paid care (publicly or privately financed)
  - Informal care = unpaid care (friends or family), within or outside household
- - help with paperwork
  - home help
  - personal care
  - nursing care



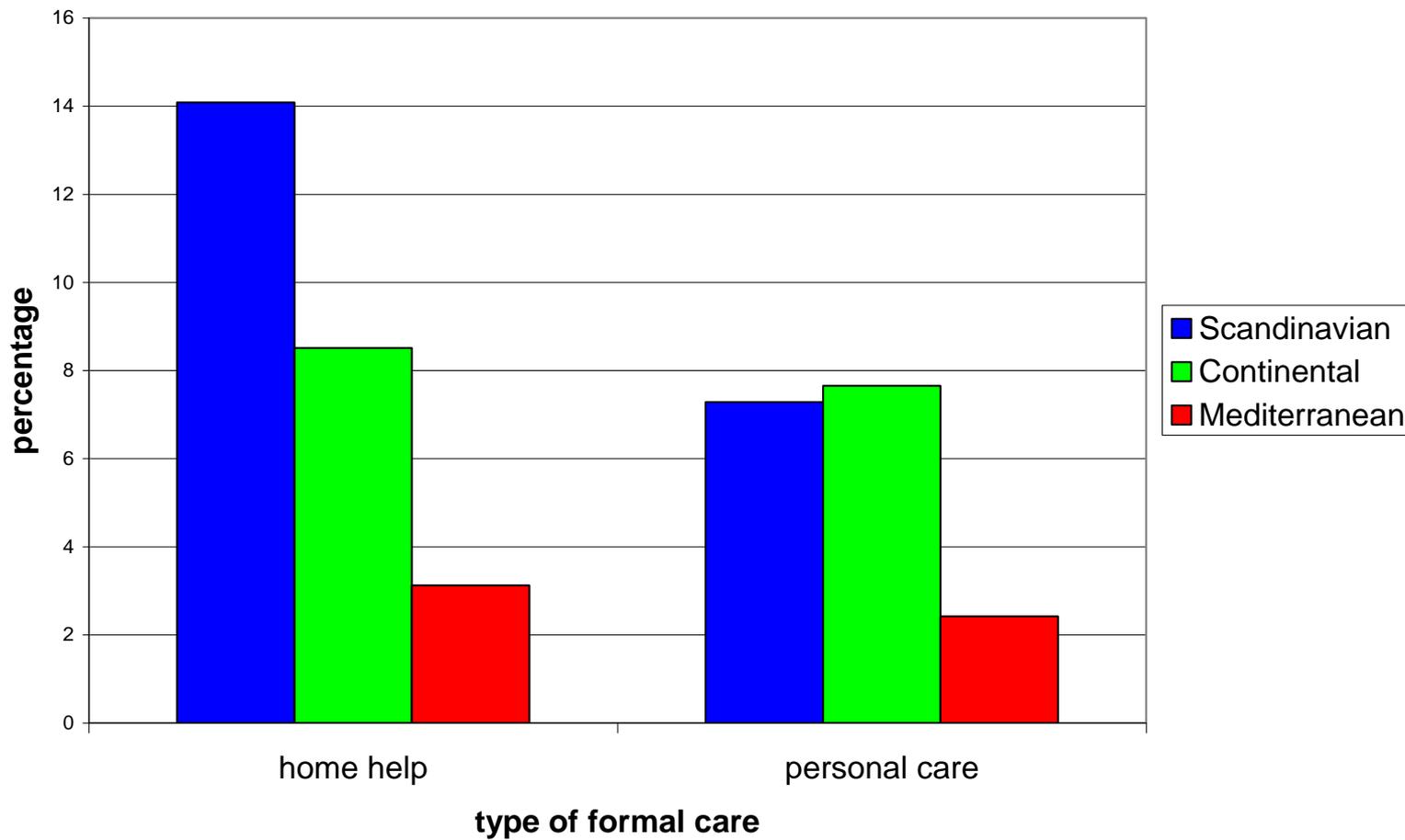


## proportion elderly receiving informal care





## proportion elderly receiving formal care





## Differences in formal and informal care use

- Where do differences in formal and informal care come from?
- Plausible: Level of care varies with demography, socioeconomic variables and health.
- But could also be due to differences in care systems, preferences, norms and behaviour.
- Investigate: due to endowments or behaviour.
- Andersons behavioural model of health utilization.



## Simultaneous model

- **needs of care**

- measures for physical, psychological and cognitive impairments
- stroke, diabetes, alcohol
- subjective measures: subjective health, hindrance

- **available resources**

- informal network inside and outside the own household

- **socio-economic factors**

- education, age, gender, income, urbanisation grade

- **attitudes**

- responsibility for care

Interaction between formal and informal care: simultaneous model.



## Relation between informal and formal care

	Northern Europe	Middle Europe	Southern Europe
effect of informal care on formal care	1,21***	ns	ns
effect of formal care on informal care	ns	ns	-2,60***

North: formal and informal care are complements  
family members organise formal care  
informal care changes from personal care to home help

South: formal and informal care are substitutes  
supply of formal care falls short  
informal carer provides necessary care



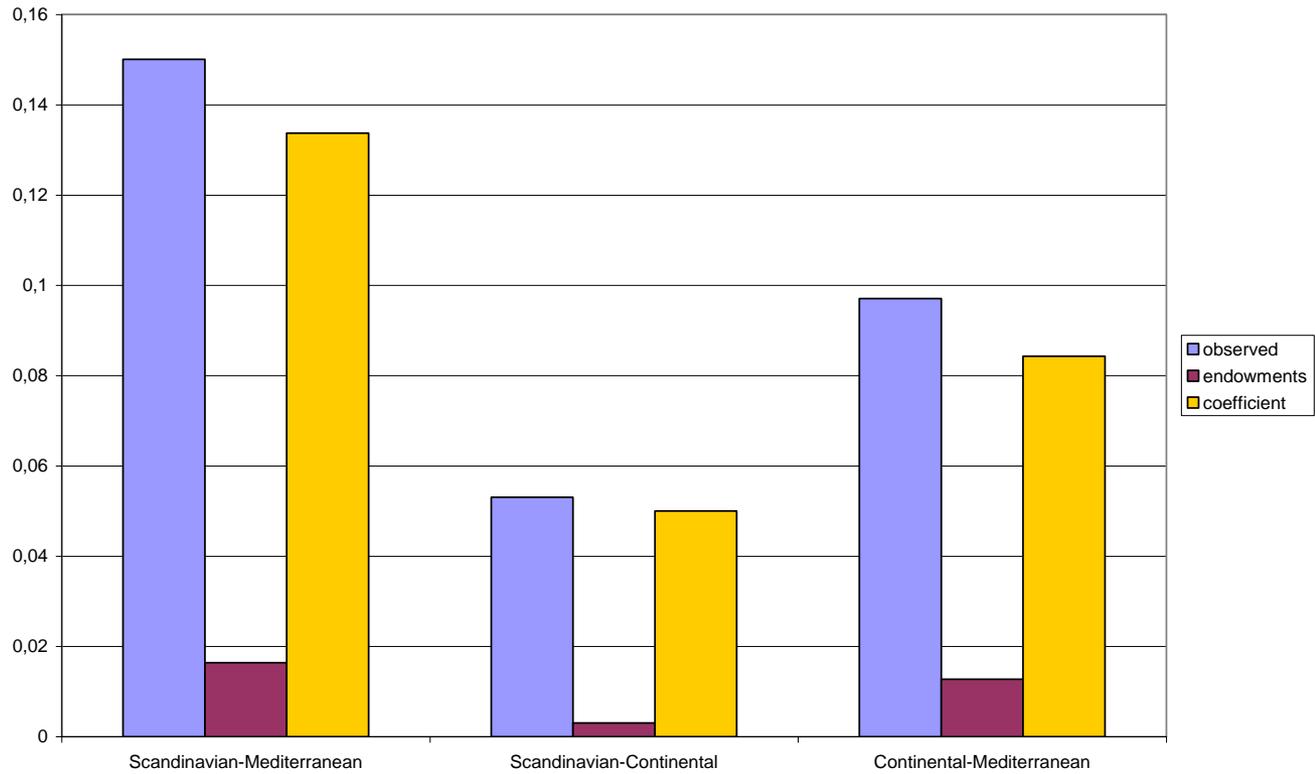
## Blinder-Oaxaca-decomposition

$$\bar{P}^E - \bar{P}^W = \left[ \sum_{H=1}^{H^E} \frac{F(X_H^E \hat{\beta}^E)}{N^E} - \sum_{H=1}^{H^W} \frac{F(X_H^W \hat{\beta}^E)}{N^W} \right] + \left[ \sum_{H=1}^{H^W} \frac{F(X_H^W \hat{\beta}^E)}{N^W} - \sum_{H=1}^{H^W} \frac{F(X_H^W \hat{\beta}^W)}{N^W} \right]$$

- How much of difference in care is accounted for by differences in observables and how much by different behaviour?
- First part: differences in endowments X
- Second part: what would gap be if solely determined by differences in coefficients (differences in country systems, preferences, norms and behaviour determining the use of care).



# Decomposition formal care





## Shift in responsibility for care

Use of care in NE if SE-system would be effective

Expected change in the use of formal and informal care use

	Due to shift to the Continental system	Due to shift to the Mediterranean system
Change in the use of informal care	-7%	-18%
Change in the use of formal care	-23%	-63%



## Decrease in supply of informal care

	Northern Europe	Middle Europe	Southern Europe
Change in the use of informal care	-3%	-3%	-2%
Change in the use of formal care	-1%	0%	0%



## Conclusion (1)

*Does the interaction between the use of formal and informal care differ between European regions?*

- In Northern Europe formal care and informal care are complements
- In Southern Europe formal care and informal care are substitutes



## Conclusion (2)

*Which factors can the differences in the use of formal and informal care be attributed to?*

- 10%: by differences in demography, health and socio-economic variables
- 90%: differences in care systems, preferences, norms, behaviour and differences in unmeasured or unobserved endowments



## Conclusion (3)

*To what extent will reduction in supply of informal care result in reduction of the use of informal care and increase in the demand for formal care?*

- small effect on informal care
- 5 informal carers to 1 disabled elderly

*What could be the consequence of shifting responsibilities for the use of informal care and the use of formal care?*

- Significant reduction in the use of informal and formal care
- Shift in care responsibility to family: substantial decrease in formal and informal care