Going formal or informal, who cares?

The role of differences in public coverage of long-term care in LTC decisions

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Introduction

- International differences in LTC use
  - Importance of informal care versus formal care
  - Home care versus institutional care

- Financing and organization of LTC affects LTC use patterns

- But studies using cross-national database of micro data only include country dummies

- This paper: closer look at association between institutional differences and decisions on LTC use
Cross-country variation in LTC use

Source: Kraus et al. 2010
Objective

- Examine how differences in public LTC coverage relate to variation in choice for informal and formal LTC between Germany (G) and the Netherlands (NL)

<table>
<thead>
<tr>
<th>LTC use</th>
<th>NL</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Care</td>
<td>85,0%</td>
<td>84,8%</td>
</tr>
<tr>
<td>Informal LTC</td>
<td>4,9%</td>
<td>11,6%</td>
</tr>
<tr>
<td>Formal LTC</td>
<td>10,2%</td>
<td>3,6%</td>
</tr>
</tbody>
</table>

Source: SHARE data (authors’ compilation)
There are similarities…

• Separate public LTC insurance system
  – (Near-)universal coverage
  – Legal entitlement to LTC
  – No role for voluntary LTC insurance
• Prices negotiated by providers and insurance companies
  – Insurance companies not at risk for LTC expenditures
• Standardized eligibility assessment
  – Legally binding
… but also differences

- Coverage in G is less comprehensive than in NL
  - G: cost-sharing is high, co-payments not income-related
  - Private expenditures as % of total LTC expenditures: 
    NL: 8%; G: 31%
- Eligibility is assessed differently
  - G: eligibility based on need;
  - NL: eligibility based on need + informal care availability
Cross-country variation LTC use

Sources variation LTC use:
1. Differences in distribution of determinants
   - E.g. differences need patterns, informal care availability
2. Differences in how determinants impact LTC use due to structural variation (e.g. public LTC insurance system):
   - Difference comprehensiveness
     - H1: Income and wealth affect decision LTC use in G, not in NL
   - Difference eligibility regarding treatment of informal care
     - H2: Impact of spouse ability on formal LTC use is larger in NL than in G
Decomposition method

Non-linear decomposition method (Yun, 2008)

Decomposition achieved by:

1. Obtaining functional relationship LTC use for G and NL:
   - Multinomial probit with alternatives: no LTC, informal only, formal (+ informal)

2. Simulating marginal and counterfactual predicted probabilities (PP): combining estimates in (1) with different samples of determinants
Decomposition method

a. Simulating marginal PP: combining determinant distribution of country with functional relationship LTC of same country

b. Simulating counterfactual PP: applying functional relationship LTC in NL to determinant distribution G

\[
\frac{F(X_{NL}\beta_{NL}) - F(X_G\beta_G)}{F(X_{NL}\beta_{NL}) - F(X_G\beta_G)} = \left[ \frac{F(X_{NL}\beta_{NL}) - F(X_G\beta_{NL})}{F(X_G\beta_{NL}) - F(X_G\beta_G)} \right] + \left[ \frac{F(X_{NL}\beta_{NL}) - F(X_G\beta_{NL})}{F(X_G\beta_{NL}) - F(X_G\beta_G)} \right]
\]

(total variation) = (variation determinants) + (variation coefficients)

In addition, detailed decomposition: contribution of each variable to variation LTC use
Data

- Survey of Health, Ageing, and Retirement in Europe (SHARE)
- Household members ≥ 50 years and their spouses are interviewed
- Includes individual and household characteristics
- Two waves: 2004 and 2006
- 8735 observations with full information (NL: 4347; DE: 4388)
- Determinants: spouse ability characteristics, income, need-related, demographics and enabling variables
Is effect spouse disability on formal LTC use more important in NL?
Is effect income on formal LTC use more important in Germany?

![Effect income graph]

- Income Q1
- Income Q2
- Income Q3

Average partial effect

-5
-4
-3
-2
-1
0
1

NL
G
Decomposition results (NL-G)

<table>
<thead>
<tr>
<th>Percentage point</th>
<th>Informal LTC</th>
<th>Formal LTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0.6</td>
<td>-3.1</td>
<td>9.7</td>
</tr>
<tr>
<td>-6.1</td>
<td>-3.1</td>
<td></td>
</tr>
</tbody>
</table>

- Contribution of coefficients
- Contribution of determinants
Detailed decomposition

Difference in p(Use) (NL-G)

Informal care

Formal care

Determinants  Coeff

Determinants  Coeff

Disability  Spouse disability  Income  Other determinants
Conclusion

• Differences in population characteristics explain small fraction of cross-country variation in LTC use
• Choice of LTC substantially influenced by features of public LTCI system
  – Spouse ability is associated with formal LTC use in NL only
  – Having below median income hampers formal LTC use in G but not in NL
Thanks for your attention!

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