Moral Hazard and Long-Term Care Insurance

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INTRODUCTION

Background

• The financing of Long-term care (LTC) is challenging, and LTC insurance (LTCI) is often considered a solution to the financing challenge.
• An estimate of the extent that insurance affects subsequent utilization (i.e., post-moral hazard) is central to pricing and long-run robustness of the private LTCI market.
• However, there is little empirical evidence on the ex post moral hazard effects of private LTCI.

Related Studies

• Grabowski and Gruber (2007) find no evidence of moral hazard.
• However, their study only examines Medicaid-funded nursing home use.
• Li and Jensen (2011) find that individuals with LTCI are more likely to use nursing home care. However, their instrumental variables may be conceptually problematic.

Research Objective

• To provide a rigorous estimate of moral hazard effects in private LTCI markets.

ANALYTICAL MODEL

Potential endogeneity issue

Individuals who own LTCI may be different from individuals who do not have LTCI. Our IV estimates address this concern.

Instrumental variable (IV) approach

• Our IV is the individuals’ tax itemization status at t-1 wave: individuals who itemize are more likely to purchase LTCI (since LTCI premiums are deductible).
• Further, using a lagged version avoids the potential for simultaneity if LTCI purchase induces itemization.

Two-stage residual inclusion (2SRI) IV models

The PS matching procedure resulted in a sample with no significant percentage points increase in nursing home use for post-acute purposes.

RESULTS

Table 1. Summary Statistics on the PS Matched Sample, 1996-2012

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Logit Manipulated</th>
<th>Logit Manipulated</th>
<th>Logit Not Manipulated</th>
<th>Logit Not Manipulated</th>
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<tbody>
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<td>Age</td>
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<tr>
<td>Black (N)</td>
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<tr>
<td>Income quartiles (%)</td>
<td>50%-75%</td>
<td>50%-75%</td>
<td>50%-75%</td>
<td>50%-75%</td>
</tr>
<tr>
<td>Income quartiles (%)</td>
<td>75%-90%</td>
<td>75%-90%</td>
<td>75%-90%</td>
<td>75%-90%</td>
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<tr>
<td>Income quartiles (%)</td>
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<td>&gt;90%</td>
<td>&gt;90%</td>
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<td>Top 25%</td>
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<td>Sel. Model: Logistic</td>
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<td>Estimation method</td>
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<tr>
<td>Final estimate</td>
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Table 2. Estimates of Marginal Effects of LTCI on LTC Use

<table>
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<tr>
<th>Dependent variable</th>
<th>Marginal effect</th>
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<tr>
<td>LTCI</td>
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</tr>
<tr>
<td>LTCI</td>
<td>0.15</td>
</tr>
<tr>
<td>LTCI</td>
<td>0.14</td>
</tr>
<tr>
<td>LTCI</td>
<td>0.13</td>
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</tbody>
</table>

METHODS

Data

• Health and Retirement Study (HRS)
• Nationally representative, longitudinal study of Americans over age 50 and their spouses.
• Information on the health and economic circumstances.

Sample

• HRS waves 3-11 (1996-2012)
• Exclusions:
• Age >50
• Veteran’s Administration or Medicaid coverage
• Negative income or assets
• More than $1M assets
• Do not file tax at t-1 wave
• Sample restricted to PS matched pairs
• Final sample: 52,876 observations

Variables

Dependent variables

• Nursing home use>= 100 days (to exclude nursing home stays for post-acute purposes)
• Home care use (in-home medical care or in-home personal care)

Independent variable

• Private LTCI ownership

Instrumental variable

• Individuals’ tax itemization status at t-1 wave

Control variables

• Demographic characteristics, health status, income and assets, family status, Medicare status, risk aversion

CONCLUSIONS AND IMPLICATIONS

We find evidence of significant moral hazard in home care use and a potentially meaningful but noisy effect on nursing home use.

• Policymakers designing incentives to promote private LTCI should consider additional spending associated with moral hazard and potentially incorporate disincentives to socially inefficient spending by policyholders.
• Further disentangling the welfare effects of increased utilization of LTC services, and ways in which inefficient moral hazard could be reduced while maintaining access, are important areas for future research.