Insurance with a deductible. A way out of the long-term care insurance puzzle

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Introduction

Long-term care (LTC):

- Care for people who are dependent on the help of others in their basic daily activities (dressing, eating, bathing, etc);
- Mainly associated with the elderly (the need is highly related with age);
- Major challenge of the 21st century because of population ageing.

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- LTC is one of the most important financial risks facing the elderly.
  - E.g. nursing home stay in the U.S. costs $40 000 - $70 000 per year; average cost in France is around €35 000 per year (Taleyson, 2003);
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  - Risk of being forced to spend one's entire wealth on LTC.
- Decreasing family availability.
- Potential help could come from two other institutions:
  - State (but its role is so far modest);
  - Private LTC insurance (but the market is thin: LTC insurance puzzle).

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- Inspiration: proposal by the Dilnot Commission in the UK (2011):
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- Inspiration: proposal by the Dilnot Commission in the UK (2011):
  - Individuals' contribution to their LTC costs should be capped at a certain amount, after which they would be eligible for full state support.
- This proposal is in the spirit of Arrow's (1963) "theorem of the deductible": optimal (private) insurance policy takes the form of 100% coverage above a deductible minimum.

Introduction

Klimaviciute and Pestieau (*International Tax and Public Finance*, 2018):

- Explore whether Arrow's theorem applies in social LTC insurance and how such a social policy should be designed (redistributional issues).
  - E.g. should the deductible be the same for everyone or should it differ according to wealth?
- Theoretical model with two types of individuals: high and low productivity ("rich" and "poor").
- Main conclusions:
  - As long as insurance provision is costly for the government (e.g. administrative costs), optimal social LTC insurance features a deductible.
  - Optimal deductibles for high and low productivity individuals are not always the same. Depends on
    - ★ whether both individual types have the same LTC needs or not;
    - ★ absolute risk aversion.

Introduction

Klimaviciute and Pestieau (*FinanzArchiv/Public Finance Analysis*, 2018):

- Restricted policy instruments: same deductible for all types, social insurance financed by a linear income tax.
- Negative correlation between income and dependence probability.
- Main conclusion: negative correlation between income and dependence probability
  - makes the case for social insurance stronger;
  - might trigger a departure from Arrow's theorem: even with insurance costs, a zero or even a negative deductible might be optimal (due to redistributional concerns).

This paper

- Private LTC insurance.
- We argue that an important factor explaining the LTC insurance puzzle might be unsatisfactory formulas of benefit payments.
  - Insurance with a deductible could make insurance more attractive to people.
- We also show that insurance with a deductible remains at work with ex post moral hazard.

Current LTC insurance benefit formulas

- Private LTC insurance does not exist in all countries.
- Two countries that have most developed markets are the US and France.
- Two main formulas as to how benefits are paid out:
  - Reimbursement policies;
  - Cash indemnity policies.

Current LTC insurance benefit formulas

Reimbursement policies:

- Pay for the actual daily (or monthly) cost of care.
- For example:
  - If one's chosen daily benefit is \$100 and the actual cost of care is \$90, the insurance company will pay \$90. Any excess daily benefit remains for the insured's future care needs.
  - If the daily cost of care is \$120, the policy will pay \$100 per day and the insured must pay the difference.
- Potential advantage: benefits can last for a longer period of time if the actual cost of care is less than the daily benefit.
- Problem: this formula comprises a ceiling in the amount of benefits and in the length of the reimbursement $\Rightarrow$ does not cover the big risk that a long and severe dependence implies.

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Cash indemnity policies:

- Pay one's selected daily benefit as soon as one qualifies for benefits.
- Cash benefit is paid regardless of one's actual expenses.
- Generally, the benefit is relatively low but may last all the lifetime like an annuity.
- Thus, it can cover the dependent for all his/her lifetime, but it is not sufficient to cover the needs of severe dependence.

Insurance with a deductible

- Neither formula meets the concerns of people who fear that large LTC costs may force them to sell all their assets and prevent them from bequeathing any of them.
- This concern could be met by insurance with a deductible.
- Drèze, Pestieau and Schokkaert (*Economics Letters*, 2016) show that Arrow's theorem holds in the form of full self-insurance for the first years of dependency followed by full insurance thereafter.
- In this paper, following Drèze and Schokkaert (*Journal of Risk and Uncertainty*, 2013), we extend this proposition to account for ex post moral hazard.

Model

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- Care can be expressed in monetary terms and implies expenditure that is subtracted from the resources of the individual.
- Consumption in state s:

$$c_s = w - D_s(1 - \alpha_s) - \pi - b_s$$

where w is initial income, α_s $(0 \leq \alpha_s \leq 1)$ is the rate of insurance, π is the insurance premium and b_s stands for bequest.

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- Individual's expected utility:

$$\sum p_s \left[u(w - D_s(1 - \alpha_s) - \pi - b_s) + H\left(A - L_s + D_s\right) + v(b_s)\right]$$

where p_s is the probability of state s.

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- Thus, for $s > \bar{s}$, we can write $(1 - \alpha_s)D_s \equiv F$, where F is a constant and stands for the deductible.
- Then we have

$$\alpha_s = max\left[0, \frac{D_s - F}{D_s}\right]$$

Case without moral hazard

- For $s > \bar{s}$, bequests are also the same in all states: $b_s = b^*$.
  - Thus, the individual is sure to leave at least b^* to his children even in case of a long and severe dependence.
- For $s < \bar{s}$, $b_s > b^*$.

Case with moral hazard

- The amount of care is chosen without taking into account its effect on the insurance premium $\Rightarrow$ overconsumption of care.
- The deductible result now depends on the elasticity of care with respect to the insurance rate.
- If this elasticity is constant, i.e. invariant to the length of dependence (which seems plausible), then the deductible result holds as before.
  - But the deductible is higher than in the absence of moral hazard.

Conclusion

- In this paper we have argued that one prominent reason for the LTC insurance puzzle is the type of insurance compensations.
  - They do not cover individuals against the risk of a too long period of dependence that would impoverish them and prevent them from bequeathing.
- We propose the adoption of insurance policies with deductibles, namely totally covering the dependant beyond a certain number of months.
- In Klimaviciute, Pestieau and Schoenmaeckers (*Journal of Risk and Insurance*, 2019) we show that the deductible result also holds in the presence of family altruism.