

Discussion: Welfare Effects of copayments in Long term Care

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Summary of the paper

- The authors assess the welfare effects of various copayment arrangements in Long Term Care (both existing and in current policy discussions)
- They use 3-year comprehensive data on expenses, duration from the Dutch Central Administrative Office and create 'random life-cycles' by replicating the observed life-cycles in the data
- Welfare loss for *less wealthy* is reduced with income and wealth-dependent copayments (compared to wealth and income independent)
- Welfare loss for *wealthiest* is less big and differences between co-payment structures is very small

Strengths

- Highly relevant topic! not only the effect of LTC on welfare, but also the inclusion of various income and wealth-profiles.
→ ties in with the increasing interest in heterogeneous agents
- The authors 'calibrate' the life-cycle model with empirical data from Netherlands using the *nearest neighbor algorithm*. The rationale and intuition behind this algorithm is well explained for the non-statistical expert
- Similarly, the numerical approach for the basic model (without bequest) is thoroughly explained and allows for straightforward replication

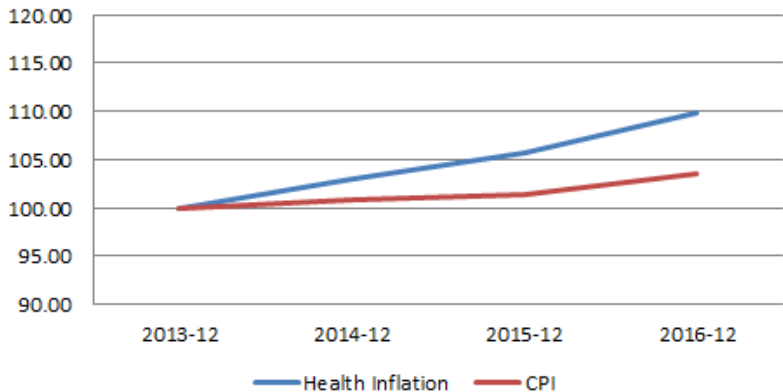
Things to improve

- The LTC cost database is linked to databases from the Dutch Municipal register. However, it is not specified whether they do this via a personal ID or if they link to representative individuals
- They assume a constant population proportion in their simulations.
 - In practice, transition rates/mortality need a time trend (morbidity compression/expansion discussion) since future LTC cost will depend on the actual time spent during retirement (longer lives do not imply longer 'healthy periods'!) (Li et al., 2016)
 - Nonetheless, it is a practical assumption and insightful
 - *Plus:* using quintile dependent transition/mortality would replicate the income-mortality link observed in empirical research (Holzmann et al., 2017)
- *Matching of income and wealth:* the LTC data is from 2004-2006 and it is matched to 2012 wealth? do you correct somehow for this time value difference?

Steady state assumption

- LTC cost database spans from 2004 to 2006. From three years they create life-cycles for at least 30 years
- However, *“since 2004, long-term care costs have grown 4.7% to 6.6% per year, depending on the type of service. By comparison, the Consumer Price Index ? which is a governmental measure of purchasing power and the inflation rate for various goods and services ? has increased at an annual compound rate of just 2.5% during this same period. **This suggests that CPI-indexed benefits may not be enough to keep pace with the rising costs of long-term care services.**”* (Prudential Research Report 2010)
- Abstracting from LTC cost inflation may underestimate the true severity of the risk

US - Health vs CPI



Minor points

- Is the analysis done for a 65 or 70 year old individual? (confusing)
- Annuity is not well specified. It should be written as
$$\sum_{t=0}^T r^{-t} \prod_{s=1}^{s=t} p_s$$
- Label the graphs
- etc.

References I

- Holzmann, R., Alonso-García, J., Labit-Hardy, H., and Villegas, A. (2017), "NDC Schemes and Heterogeneity in Longevity: Proposals for Re-design," Mimeo.
- Li, Z., Shao, A. W., and Sherris, M. (2016), "The impact of systematic trend and uncertainty on mortality and disability in a multi-state latent factor model for transition rates," .