

Demand for Tailor Made LTC Insurance

Preliminary Research Findings

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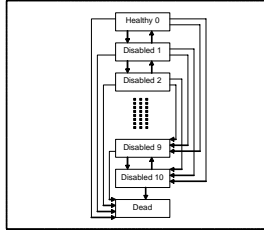
Overview

- Research questions
- Review of past research activity
- An over-simplified assessment of demand
- Outlook: An economic approach to modelling tailor made LTCI
- Conclusion and Summary of Findings

Research Questions

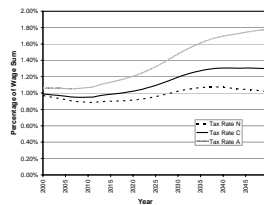
- The U.K. market for private LTCI is virtually non-existent. Why?
 - Public crowding out
 - Lack of suitable products
- Research objectives:
 - Derive potential demand for tailor made LTCI products
 - Analyse how public support system (i.e. means testing) could be changed to allow for vibrant market in the U.K. (while avoiding adverse social effects)

Previous Research: LTC cost projections



- Partition of elderly population by disability (Rickayzen & Walsh model)
- Mapping from disability to care setting
- Assume relationship remain constant
- Calculate implied tax rate
- Assess potential deficit of informal care

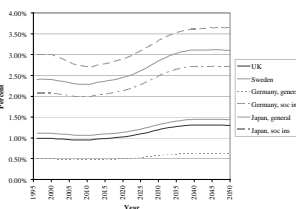
Projection Results



- No. of older people increases continuously until mid-21st century
- Largest increase in people receiving informal care
- Institutions: up 30 % in 3-4 decades; formal home care up 50 per cent.
- Public spending on LTC sensitive to health scenario:
 - Constant in optimistic case
 - Up from 1 % to 1.3 % in baseline case
 - Up from 1 % to 1.8 % in pessimistic case

Previous Research: LTC in four OECD countries

- Purpose: Analyse fiscal burden and distributive effects of various LTC funding regimes
- Using Rickayzen & Walsh model, lifetime contributions and benefits from public LTC systems were compared
- Countries included are UK, Sweden, Germany, Japan
- Assumption of no behavioural response to changes in funding regime is crucial



LTC in four OECD countries

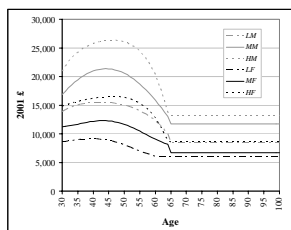
Gender	Age	Income	Germany	Japan	Sweden
Female	20	Low	-2,442	8,095	10,226
		Medium	-5,537	4,079	5,590
		High	-3,668	1,455	2,380
	40	Low	-884	10,308	15,407
		Medium	-574	6,990	13,169
		High	-4,109	5,251	12,618
	60	Low	-4,111	15,760	19,443
		Medium	-4,847	15,734	19,688
		High	-7,962	17,334	21,584
Male	20	Low	3,022	10,845	12,909
		Medium	3,810	11,380	13,479
		High	-7,066	12,985	15,144
	40	Low	-4,182	-2,557	-10,629
		Medium	3,026	-9,759	-19,153
		High	11,053	-12,667	-12,575
	60	Low	-3,801	-5,047	-1,559
		Medium	909	-10,311	-5,466
		High	3,181	-15,666	-9,404
	80	Low	134	1,601	3,393
		Medium	-2,918	-116	2,488
		High	-798	-989	1,610
		Low	700	2,185	3,007
		Medium	802	2,042	2,947
		High	-1,239	1,939	2,952

- Increases in tax rates roughly proportional, except for Japan
- Systems are all favourable to women: lifetime redistribution between £3,000 and £13,000, but countries differ substantially in this respect.
- This result is mainly driven by differences in longevity and disability and to a lesser extent by differences in income
- Germany and the UK are particularly favourable to young males
- Swedish system better for old

A simplified model of LTCI

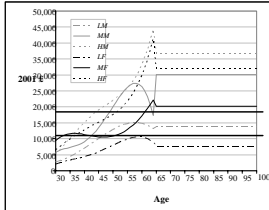
- Needs for LTC do not only depend on disability
- Socioeconomic characteristics matter, such as
 - Marital status/cohabitation
 - Income
 - House ownership
- Just as the occurrence of disability, future realisations of these are unpredictable to individuals, which provides rationale for insurance
- If individuals want to protect their assets, an insurance benefit that tops up income might be useful
- Such an insurance would face serious problems, however:
 - Moral hazard*: Income, marital status and disability do, in varying degrees, depend on the individual's own choices
 - Adverse selection*: Individuals have better info of their likely future characteristics than insurers
 - Correlation of risks*: Low-income people are more likely to be disabled.
- For now: all these problems are ignored... just to provide a very stylised assessment.

Income Profiles



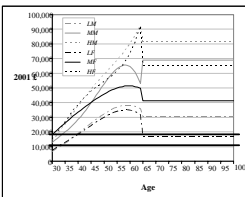
- We estimated detrended earnings functions by gender and education
- Peak of salary occurs between 45-50
- Strongly significant gender and education differences
- Hence, if demand for LTCI is motivated by protecting assets, taking income into account might provide more efficient insurance

Asset profiles



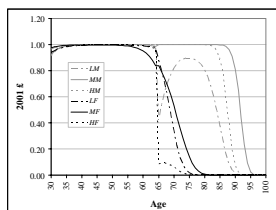
- People seem to accumulate assets throughout life
- Mainly it is males and females with university degrees (and low incomes) that have strong incentives to purchase topup insurance
- However, correlation between income and assets only partially controlled for by taking age and education into account

Asset Profiles II



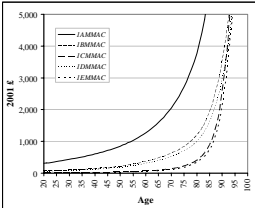
- Taking value of home into account, all classes have at least weak incentive to top up.
- Only non-educated females have weak incentives (on average!)
- During working life, incentives are generally stronger (ages 50-65).

Cohabitation



- Cohabitation: Striking gender difference: females more likely to be single.
- Class differences somewhat smaller: individuals with some education tend to be cohabiting at older ages than others
- Females with high education more likely to be single at old age.

Premium Rates



- With all these simplifications: what about premium rates?
- Considerable reduction in premium rates when income taken into account
- Further reduction when spouse accounted for
- Much weaker impact of spouse on female premium rates

Conclusions I

- There seem to be systematic differences between different socioeconomic groups concerning life cycle trajectories of variables relevant for LTC need
- These differences in LTC risk imply that tailor made insurance products could potentially offer better insurance than traditional LTCI alone.
- Taking income and spouse into account would potentially reduce premium rates quite significantly
- A more rigorous approach is needed to assess potential demand for these products
- In particular, we need
 - An economic model of individual behaviour, allowing for
 - Varying degrees of risk aversion
 - Time preferences
 - Uncertainty: health deterioration, income and marital status are unpredictable
 - Information on correlation between disability, socioeconomic characteristics, and marital status
 - Individual heterogeneity: even controlling for age, gender and education: people are different, so potential adverse selection problems.

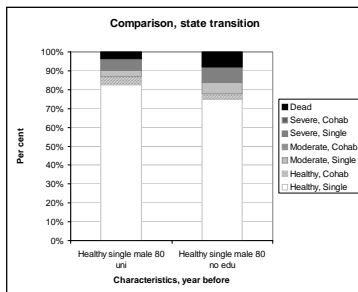
Building an economic model for LTCI: Preliminary results

- In order to model individual demand we need information on the correlation between disability, marital status and socioeconomic characteristics
- Using the BHPS, we compile a dataset with info on disability:
 - Healthy
 - Moderate
 - Severe
 - Dead
- ...and on education level
 - None
 - Some
 - Uni
- ...and on cohabitation status
 - Single
 - Cohabiting
- Transition rates estimated using multinomial logit model.

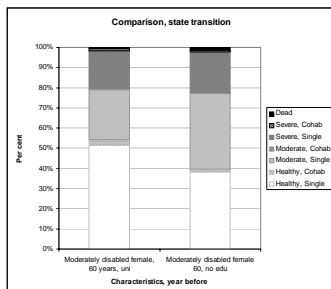
Findings

- Gender and education strongly affect the need for LTC.
- Disability and cohabitation state are highly persistent
- Data problem: mortality rates are seemingly underestimated

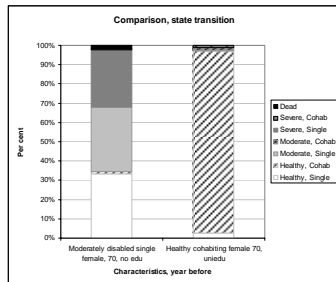
Transition rate model: Example 1



Transition rate model: Example 2



Transition rate model: Example 3



Conclusions II

- Individuals with higher education have substantial advantages in terms of
 - Mortality rate
 - Prevalence of disability
 - Probabilities of improving/deteriorating health
- This should be taken into account when premium rates are calculated
- It is also highly relevant for the design of new LTCI products
