Health Seminar
Critical Issues in Managing Long Term Care Insurance

LONG TERM CARE INSURANCE IN ITALY

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Outline

• The scenario
• The need for LTC covers
• The LTC insurance market
• Public vs private: towards a LTC policy?
• The insurers’ role
The scenario

• Demographic scenario: ageing population
  – Decreasing mortality and increasing life expectation
  – Decreasing fertility
  – Decreasing family size

• Disability scenario
  – High prevalence rates at very old ages
  – Increasing prevalence rates in the population

• Immigration

• Trends
# AGEING POPULATION

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 24</td>
<td>25.82 %</td>
<td>25.92 %</td>
<td>0 - 24</td>
<td>13.72 %</td>
<td>13.06 %</td>
</tr>
<tr>
<td>25 - 29</td>
<td>18.27 %</td>
<td>19.81 %</td>
<td>25 - 29</td>
<td>24.87 %</td>
<td>24.85 %</td>
</tr>
<tr>
<td>60 -</td>
<td>5.02 %</td>
<td>5.18 %</td>
<td>60 -</td>
<td>9.96 %</td>
<td>13.55 %</td>
</tr>
</tbody>
</table>

Age and sex distribution - Source: ISTAT
DECREASING MORTALITY (1)

Survival functions

Source: ISTAT
DECREASING MORTALITY (2)

Curves of deaths

Source: ISTAT
INCREASING EXPECTATION OF LIFE (1)

M = males,  F = females

Expectation of life at birth

Source: ISTAT
INCREASING EXPECTATION OF LIFE (2)

V1 = expectation of life at 60
V2 = Lexis point (age of max prob of death)
V3 = expectation of life at birth

Source: ISTAT
DECREASING FERTILITY

Average number of children per woman

Source: ISTAT
DECREASING FAMILY SIZE (1)

Distribution of the family size  
*Source: ISTAT*
DECREASING FAMILY SIZE (2)

Average family size

Source: ISTAT
Disability prevalence rates among males and females (prevalence rates x 100)

Sources: ISTAT (1990), ANIA
Disability prevalence rates among males and females
(prevalence rates x 100)

Sources: ISTAT (1990), ANIA
IMMIGRATION

% foreign residents

Source: ISTAT

Effects on population dynamics?
MORTALITY TRENDS

- rectangularization \(\Rightarrow\) a higher concentration of deaths around the Lexis point
- expansion \(\Rightarrow\) moving Lexis point (LONGEVITY RISK)
**JOINT MORTALITY AND DISABILITY TRENDS**

<table>
<thead>
<tr>
<th></th>
<th>T</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>T = total expected life</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>H = expected life in the healthy state</strong></td>
<td></td>
<td></td>
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</tbody>
</table>

**Three theories ⇒ dramatic differences in LTC need**

**Graphs:**
- **Compression Theory**
  - Calendar Year
  - Expectations
  - T vs. H
- **Pandemic Theory**
  - Calendar Year
  - Expectations
  - T vs. H
- **Equilibrium Theory**
  - Calendar Year
  - Expectations
  - T vs. H
Trends in the demand for LTC

- at an individual level:
  - compression theory ⇒ decreasing
  - equilibrium theory ⇒ constant
  - pandemic theory ⇒ increasing

- at a collective level (with an increasing elderly population):
  - compression theory ⇒ stable
  - equilibrium theory ⇒ increasing
  - pandemic theory ⇒ dramatically increasing
UNCERTAINTY IN FUTURE TRENDS

• Trends lead to the use of projections
• Risks for the provider of LTC covers
  – random deviations (process risk: a pooling risk)
  – systematic deviations (parameter or model risk, implied by uncertainty of future trends: a non-pooling risk)
    • a critical issue in managing LTC covers
• technical tools
  – risk based capital
  – safety loadings
  – reinsurance
The need for LTC covers originates from

- **demographic trends**
  - increasing expectation of life
  - low birth rates
  - expectation of life in the disability state (increasing ?)

- **social developments**
  - changes in the structure of the family
  - changes in the welfare system
Barriers obstructing LTC insurance diffusion

- demand side
  - difficulties in perceiving (at young ages) the value of LTC benefits
  - high cost of LTC covers (at old ages)

- supply side
  - lack of reliable experience data
  - uncertainty about future trends in mortality and old-age disability
  - adverse selection
  - moral hazard
  - claims control

*critical issues in LTC insurance construction*
The LTC insurance market

• Market developments in Italy
  – LTC covers became available in 1997
    • 20 years later than in U.S.
    • the first LTC product
      – offered by SASA VITA (August 1997)
      – 6 ADLs based; benefit trigger: 3 ADLs
      – fixed amount annuity
  – 12 insurers at present offer LTC products (some will offer LTC products in a very near future)
• The products
  – Types of benefits
    • fixed amount annuities (usually with investment profit participation)
      – amount dependent on the disability level (ADLs)
      – amount independent of the disability level
    • indemnity insurance, i.e. nursing and medical expense reimbursement (one insurer)
  – Premiums
    • single premium
    • periodic premiums
      – level premiums
      – recurrent single premiums
    • waived during disability
– Structures of annuity products
  • stand alone LTC annuity
  • LTC cover as a rider benefit (e.g. whole life assurance + LTC annuity, possibly as accelerated benefit)
  • enhanced pension

– appealing product (not a “pure risk” product)
– easily embedded into pension schemes
– lower systematic risk for the insurer
• Technical bases
  – Lack of insurance experience
  – Data available at population level (e.g. ISTAT) are prevalence data
    • can be used to evaluate probabilities of being disabled
    • sound actuarial structures are based on transition probabilities, or on probabilities of becoming disabled and remaining disabled (inception - annuity models)
    • possibility (used in actuarial practice)
• Technical basis suggested by ANIA (1997)
  – Difficulties in using prevalence rates
  – Data from other countries
  – Proposal: use data from Germany (data from Germany already used in Italy in pricing disability benefits provided by IP policies)
  – Data structure
    • mortality of disabled people: obtained increasing population mortality (aggregate mortality)
    • probability of becoming disabled: obtained from German data (adjusted, to allow for differential disability among males and females)
    • allowing for different disability states (ADL based) via weighting annuity benefits with prevalence rates
• Need for experience rating
  
  *critical issue in managing LTC covers*

  - monitoring the insured population
    * disability inception rates (possibly allowing for various ADL-based states)
    * mortality of healthy people
    * mortality of disabled people (possibly allowing for various ADL-based states)
    * nursing and medical costs

  - adjustment of premiums according to credibility principles

  - reserving based on experience
Public vs private: towards a LTC policy

• Present situation
  – 1st pillar
    • daily allowance to person providing assistance (paid by the social security system)
    • other allowances depending on local health care provisions
      (a poor presence)
  – 2nd pillar
    • some pension scheme provides LTC annuities in the form of enhanced pensions
    • no sick fund operates (lack of legislation)
      (a rather poor presence)
– 3rd pillar
  • individual LTC policies
    Tax concessions (since 2001):
    – detraction of 19% of LTC premium from taxes; maximum amount of premiums (including premiums for death and disability covers) = 1300 Euro
    – LTC benefits tax-free

(a slowly increasing market)
• Possible future settlements improving the diffusion of LTC insurance cover (see ISVAP, 2001)
  – compulsory LTC insurance, through mutual sick funds (and possibly insurance companies)
    • LTC provision organized by the National Health System
    • public + private providers
    • financing LTC insurance: funding vs pay-as-you-go
  – LTC cover as a compulsory item in pension schemes
    • enhanced pension benefits
    • funded via periodic contributions
The insurers’ role

• Also depending on the national LTC policy, the insurer can:
  • provide individual covers, e.g.
    – stand-alone annuity covers
    – enhanced pension products
    – nursing and medical expense refunding
  • provide groupe insurance products
  • provide insurance cover for pension schemes including LTC benefits
    – e.g. enhanced pensions
• provide stop-loss covers for sick funds including LTC benefits
  – nursing and medical expense refunding
  – fixed amount annuities (possibly ADL based)
References

- ISVAP (1998), *Long Term Care - Le prospettive per il mercato assicurativo italiano. Due modelli a confronto: Germania e Stati Uniti*, Quaderno n. 3
- ISVAP (2001), *Il costo e il finanziamento dell’assistenza agli anziani non autosufficienti in Italia*, Quaderno n. 11
- Proceedings of the 114th EU Insurance Supervisors, Helsinki, 2000
- Proceedings of the 116th EU Insurance Supervisors, Oslo, 2001
Many thanks for your kind attention!