

XXVII ICA - Cancun, 2002

## **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

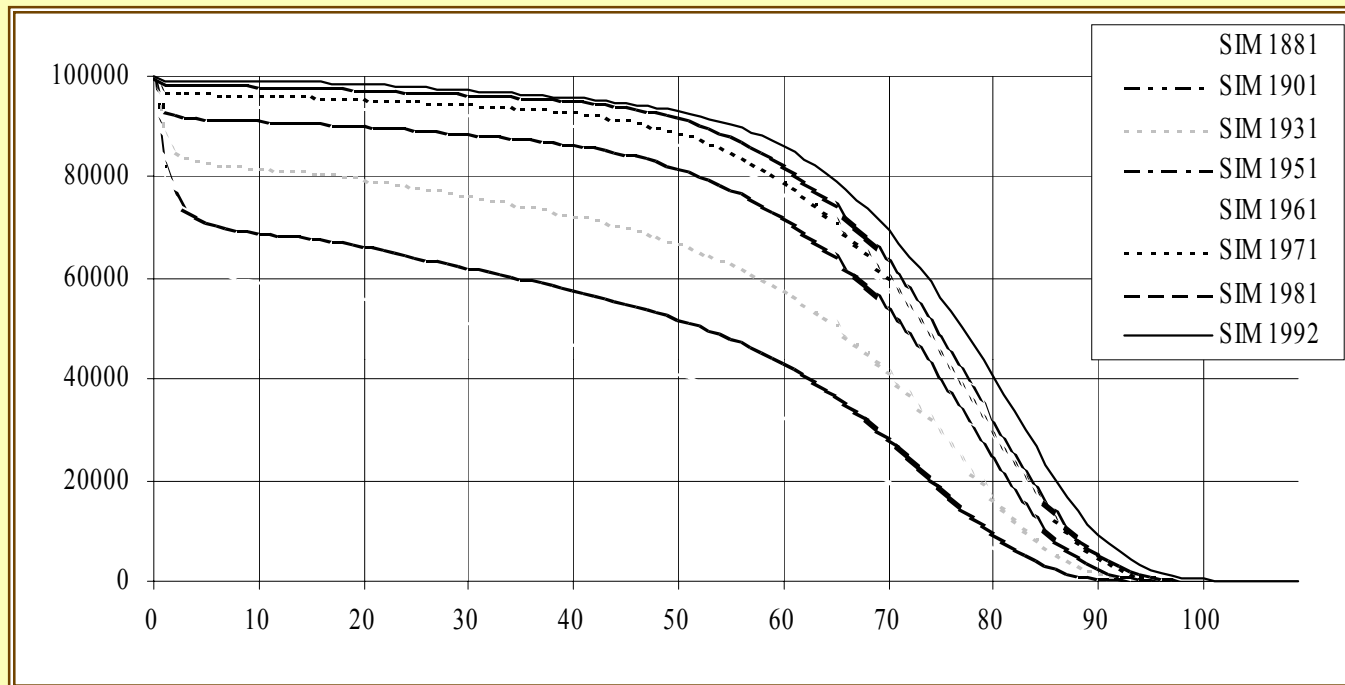
- Demographic scenario: ageing population
  - Decreasing mortality and increasing life expectation
  - Decreasing fertility
  - Decreasing family size
- Disability scenario
  - High prevalence rates at very old ages
  - Increasing prevalence rates in the population
- Immigration
- Trends

## AGEING POPULATION

1911			2000		
Age	Males	Females	Age	Males	Females
0 - 24	25.82 %	25.92 %	0 - 24	13.72 %	13.06 %
25 - 29	18.27 %	19.81 %	25 - 29	24.87 %	24.85 %
60 -	5.02 %	5.18 %	60 -	9.96 %	13.55 %

**Age and sex distribution - Source: ISTAT**

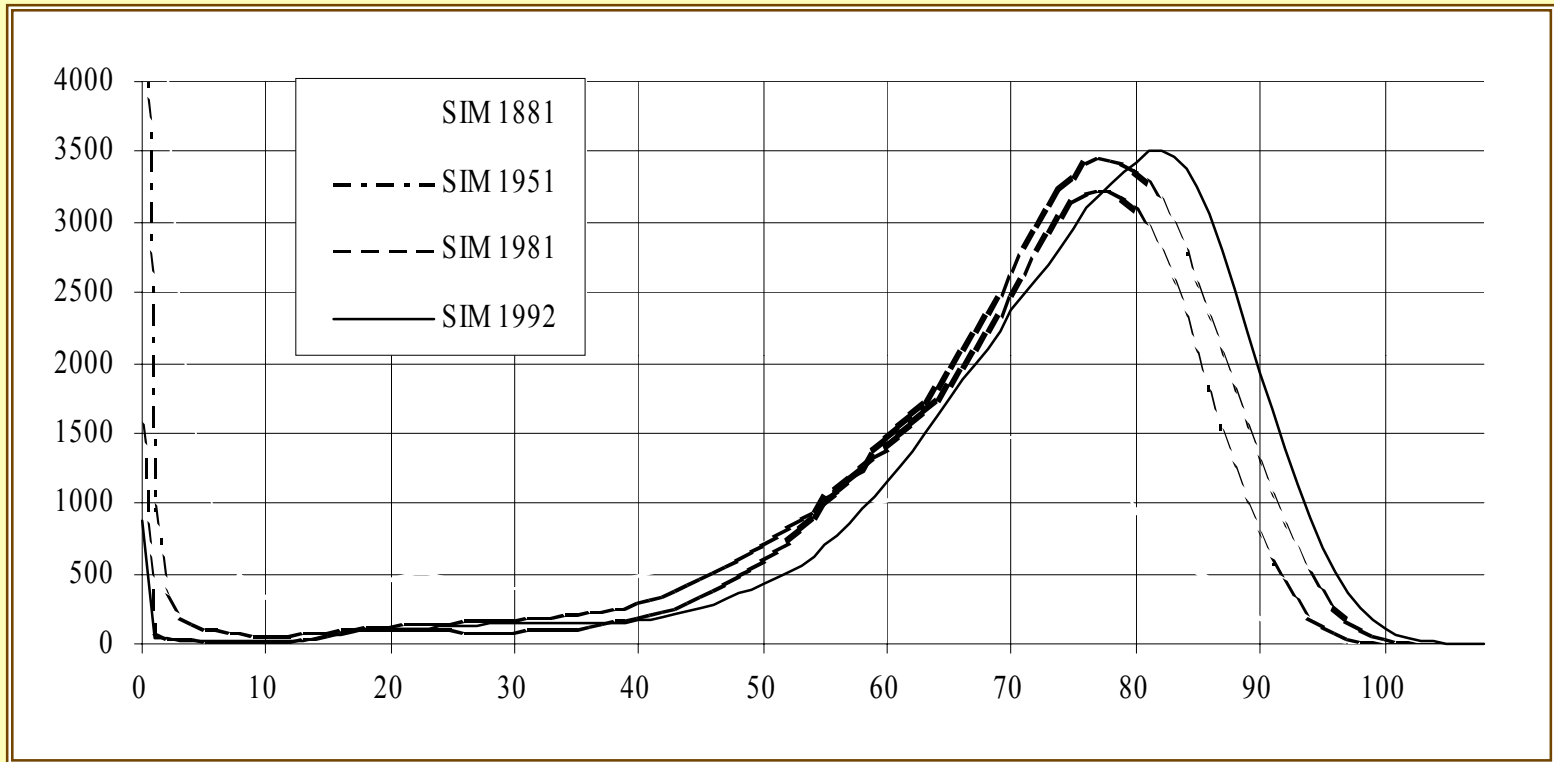
## DECREASING MORTALITY (1)



Survival functions

Source: ISTAT

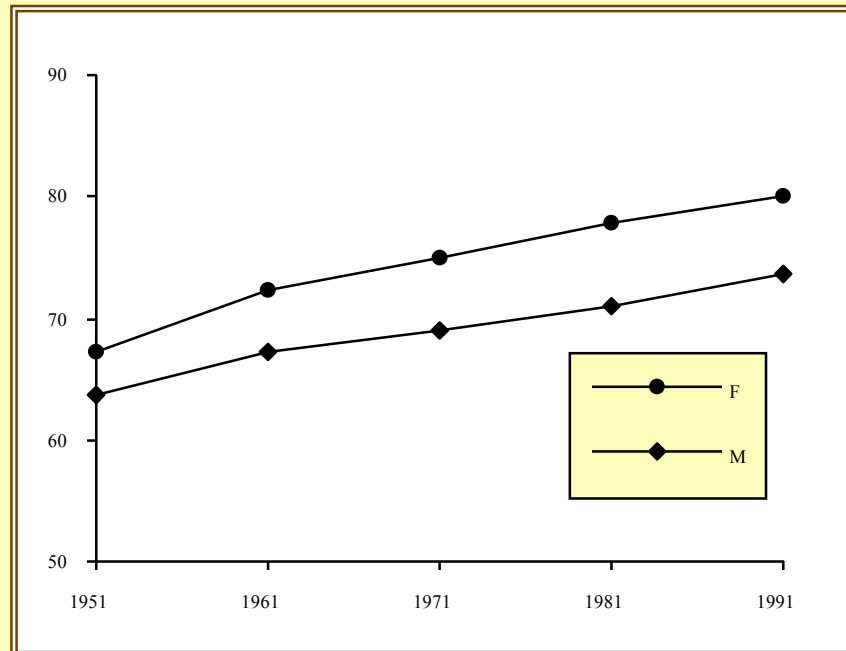
## DECREASING MORTALITY (2)



Curves of deaths

Source: ISTAT

## INCREASING EXPECTATION OF LIFE (1)

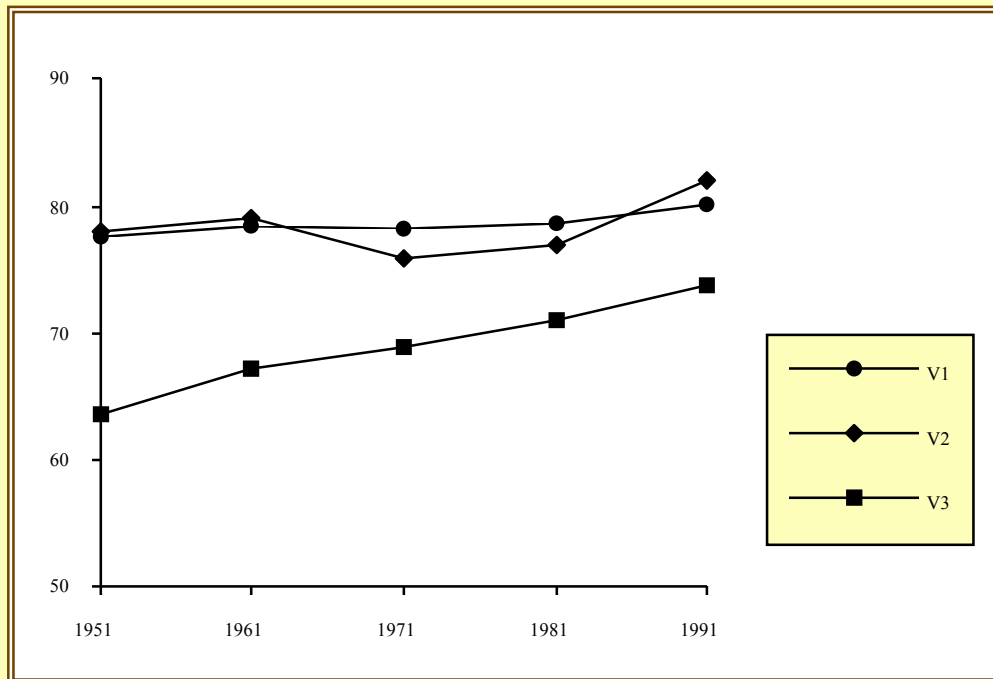


M = males, F = females

Expectation of life at birth

*Source: ISTAT*

## INCREASING EXPECTATION OF LIFE (2)



V1 = expectation of life at 60

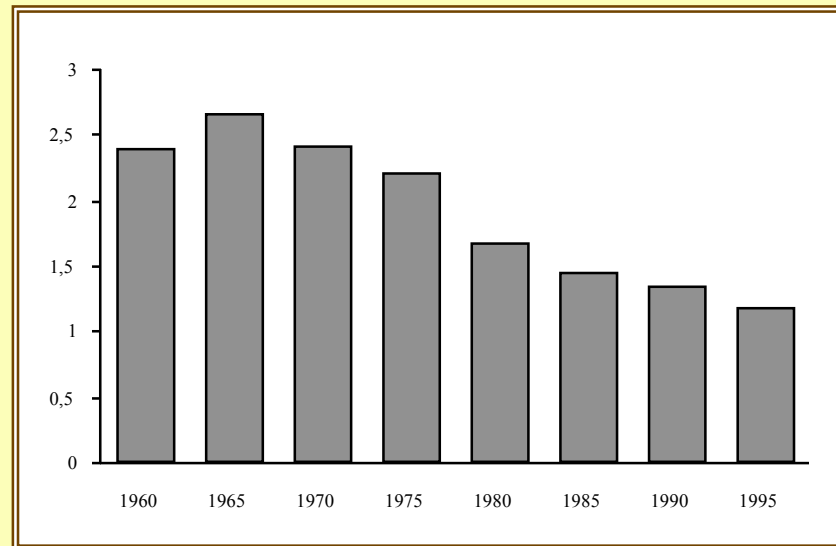
V2 = Lexis point (age of max prob of death)

V3 = expectation of life at birth

*Source: ISTAT*



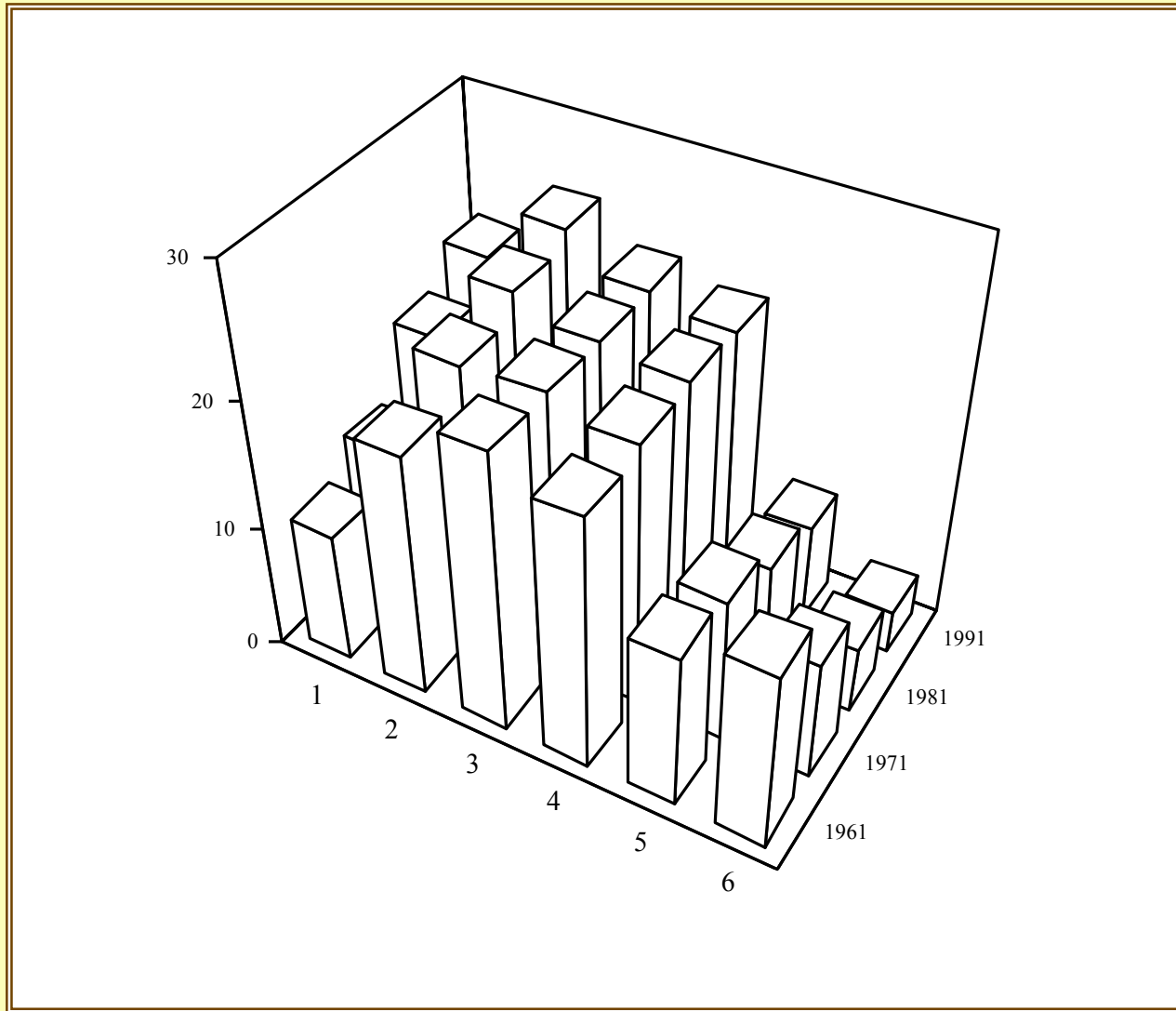
## DECREASING FERTILITY



Average number of children per woman

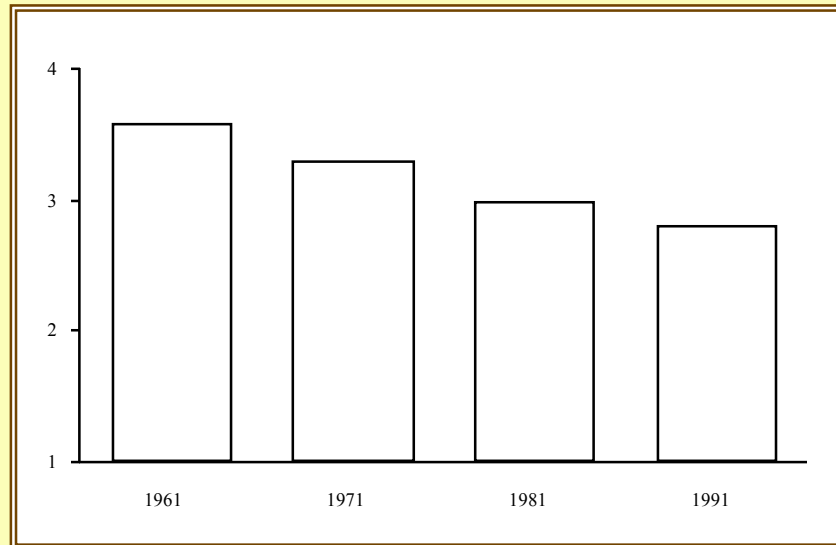
*Source: ISTAT*

## DECREASING FAMILY SIZE (1)



Distribution of the family size *Source: ISTAT*

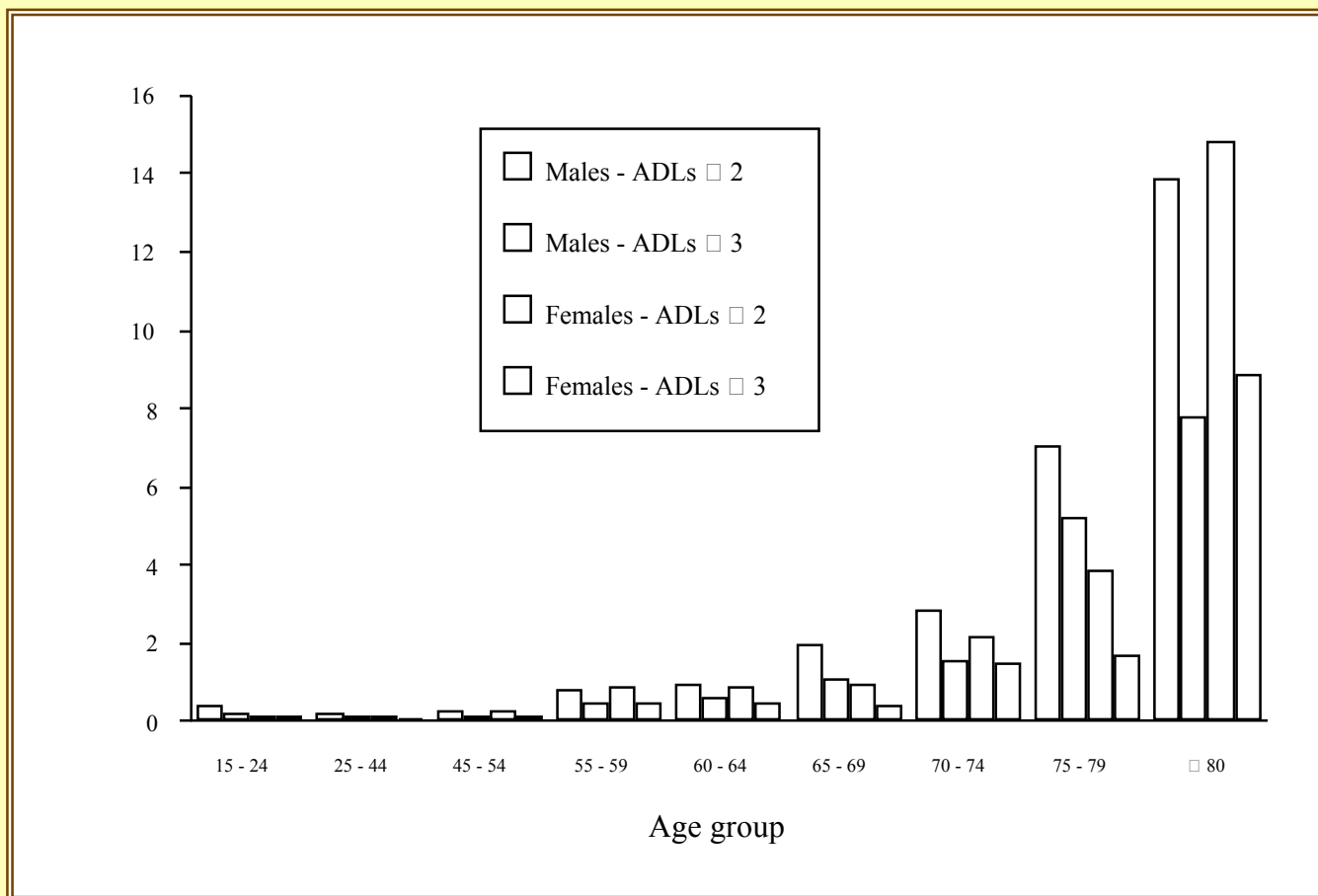
## DECREASING FAMILY SIZE (2)



Average family size

*Source: ISTAT*

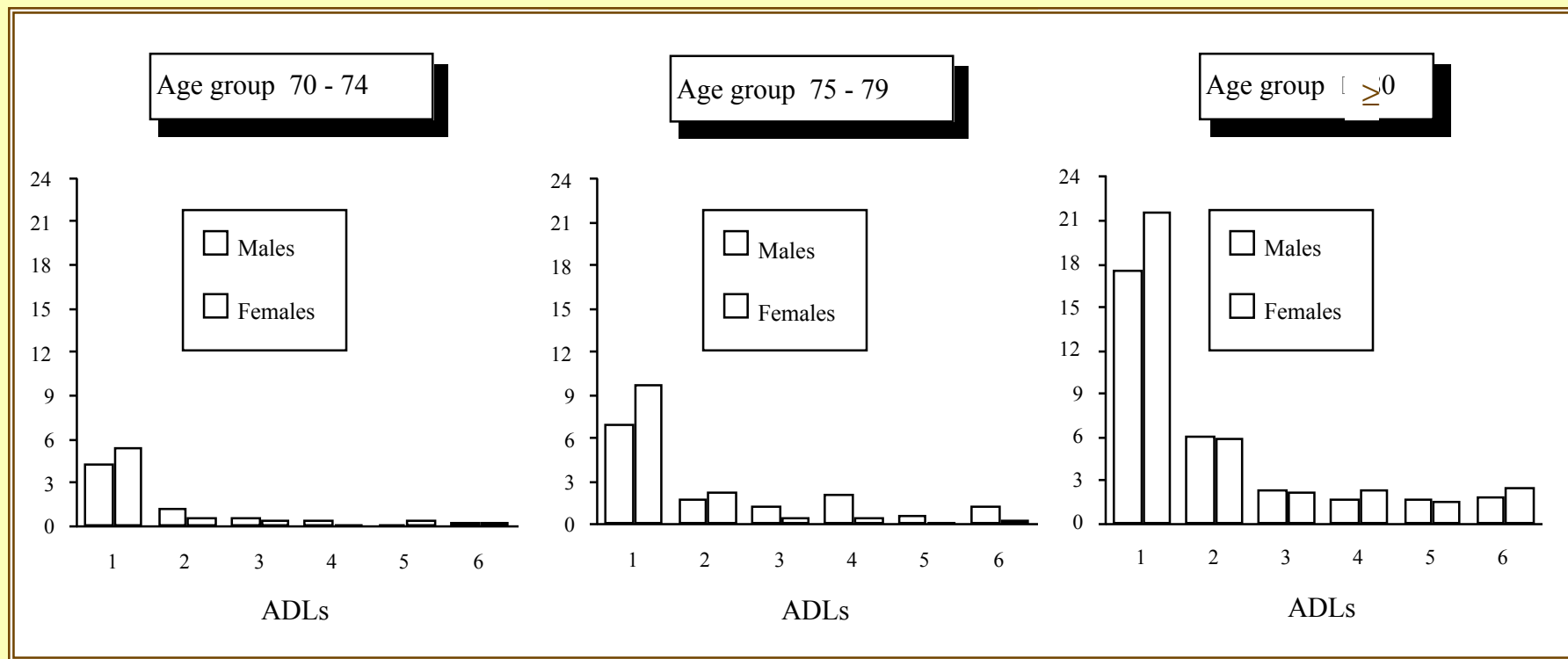
## DISABILITY PREVALENCE (1)



Disability prevalence rates among males and females  
(prevalence rates x 100)

Sources: ISTAT (1990), ANIA

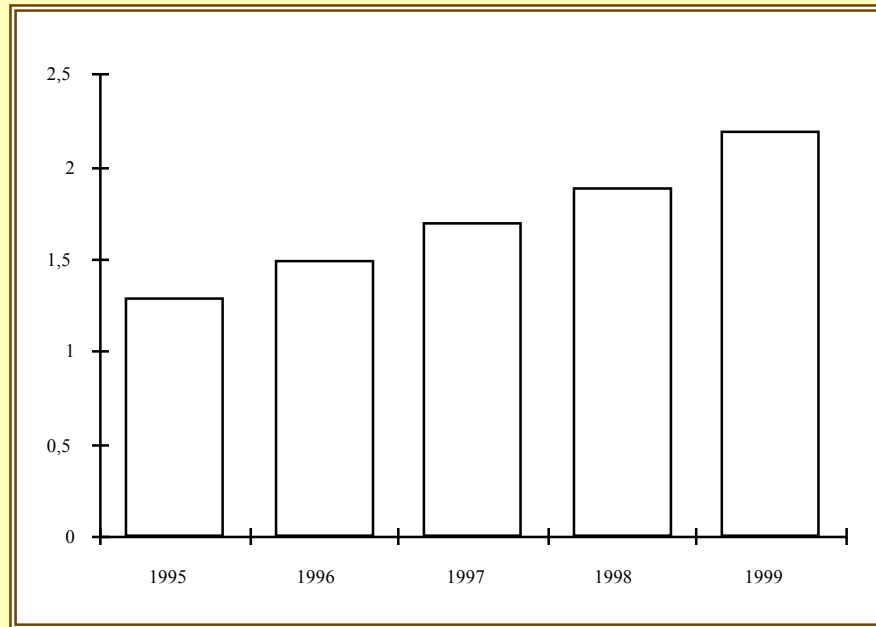
## DISABILITY PREVALENCE (2)



Disability prevalence rates among males and females  
(prevalence rates x 100)

Sources: ISTAT (1990), ANIA

# IMMIGRATION

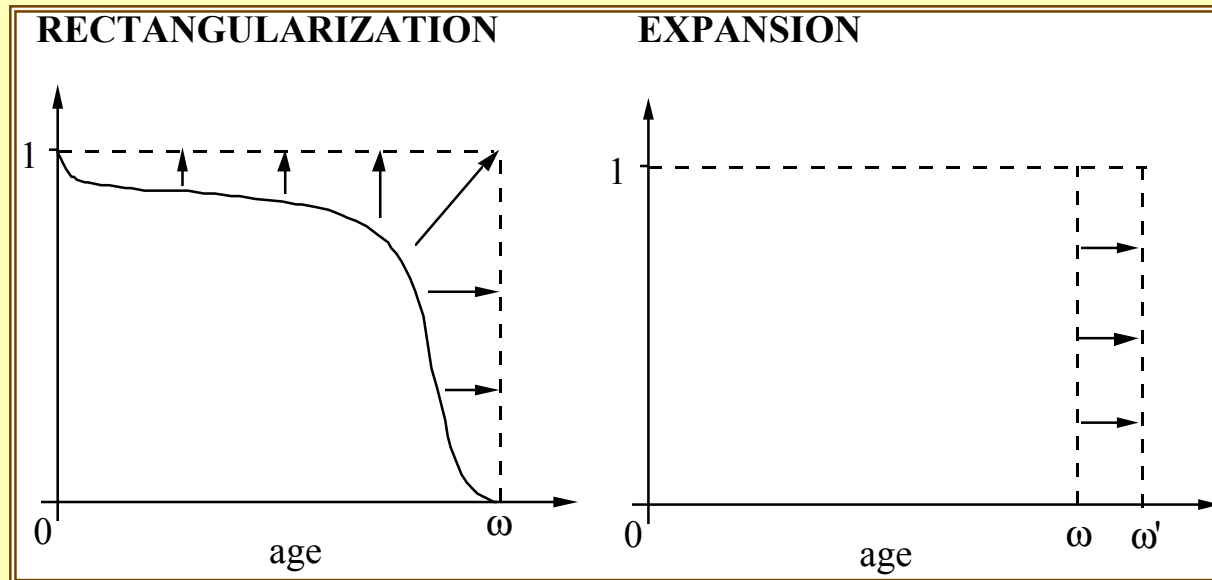


% foreign residents

*Source: ISTAT*

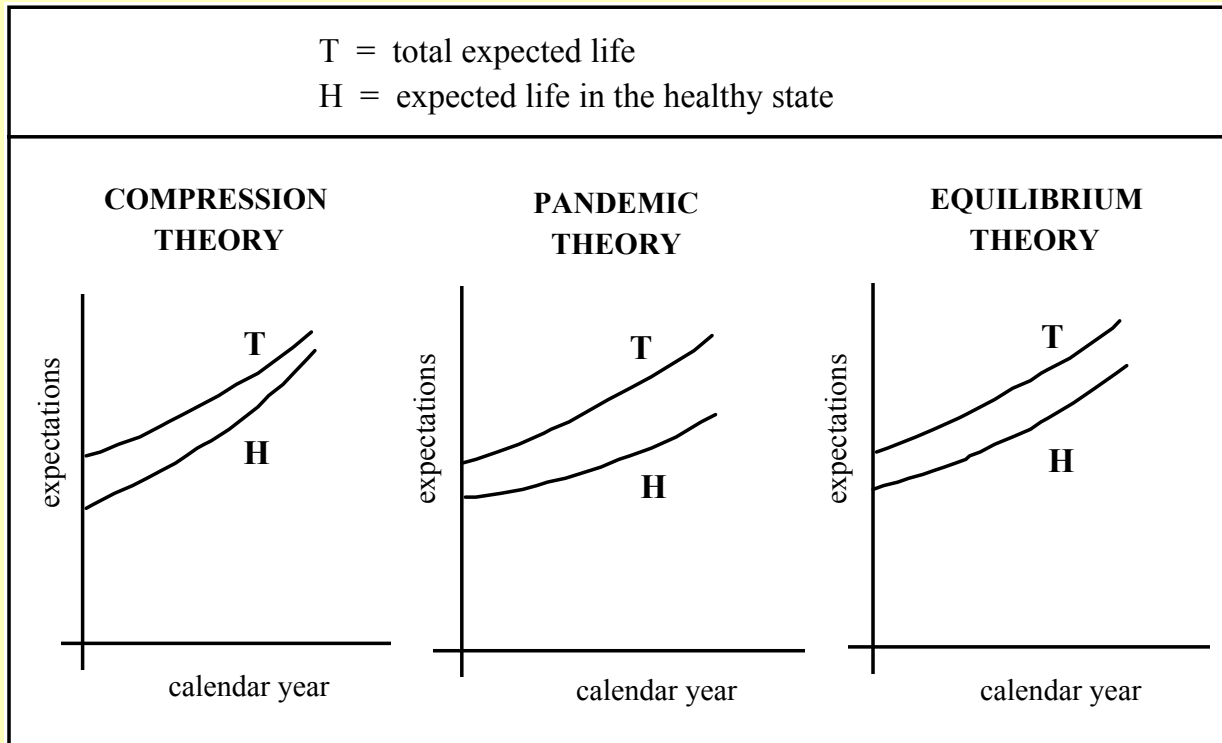
Effects on population dynamics ?

## 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



Three theories  $\Rightarrow$  dramatic differences in LTC need

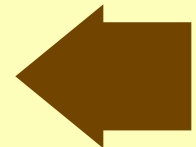


# Trends in the demand for LTC

- at an individual level:
  - compression theory  $\Rightarrow$  decreasing
  - equilibrium theory  $\Rightarrow$  constant
  - pandemic theory  $\Rightarrow$  increasing
- at a collective level (with an increasing elderly population):
  - compression theory  $\Rightarrow$  stable
  - equilibrium theory  $\Rightarrow$  increasing
  - pandemic theory  $\Rightarrow$  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

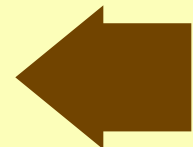
- demographic trends
  - increasing expectation of life
  - low birth rates
  - expectation of life in the disability state (increasing ?)
- social developments
  - changes in the structure of the family
  - changes in the welfare system

# Barriers

obstaciling 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***



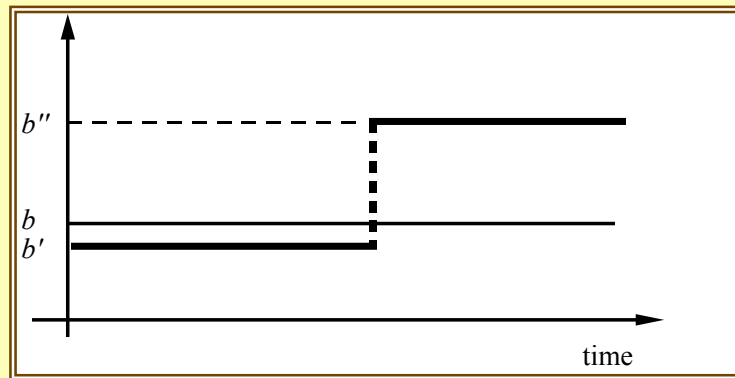
# The LTC insurance market

- 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)

PREVALENCE RATES  
+ HYPOTHESES



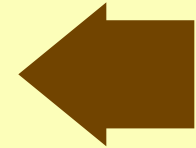
PROBABILITIES OF BECOMING  
AND REMAINING DISABLED



- 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
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***Many thanks  
for your  
kind attention !***