



A Conceptual Framework for Retirement Products: Risk Sharing

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International Conference on Annuity Markets

Tokyo, 29-30 January 2009

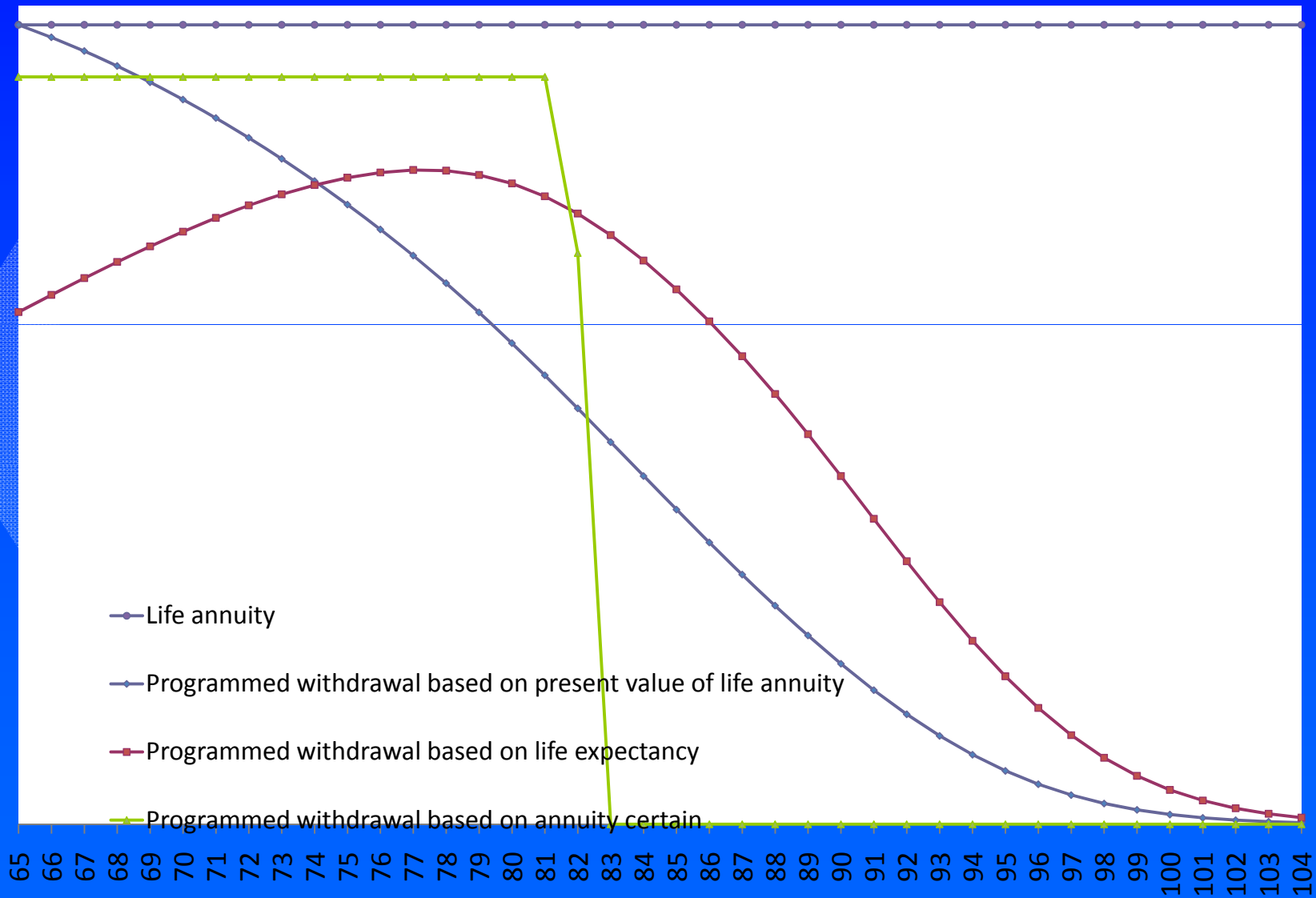
Structure of the presentation

- The need for annuities.
- National annuity markets (Rusconi, 2008).
- Constraints to annuity markets.
- Focus of supply constraints: ability of private sector arrangements to supply adequate annuities to retirees; excessive risk born by providers of life annuities.
- Solution: Risk sharing, different annuity products.

The need for annuities

- As we saw this morning, life annuities provide annuitants protection from longevity risk
- Economic theory suggest that people will annuitize as much as possible of their accumulated wealth (Yaari, 1965). However, this only holds under certain assumptions (e.g. no bequests).

The advantage of annuities



National Annuity Markets

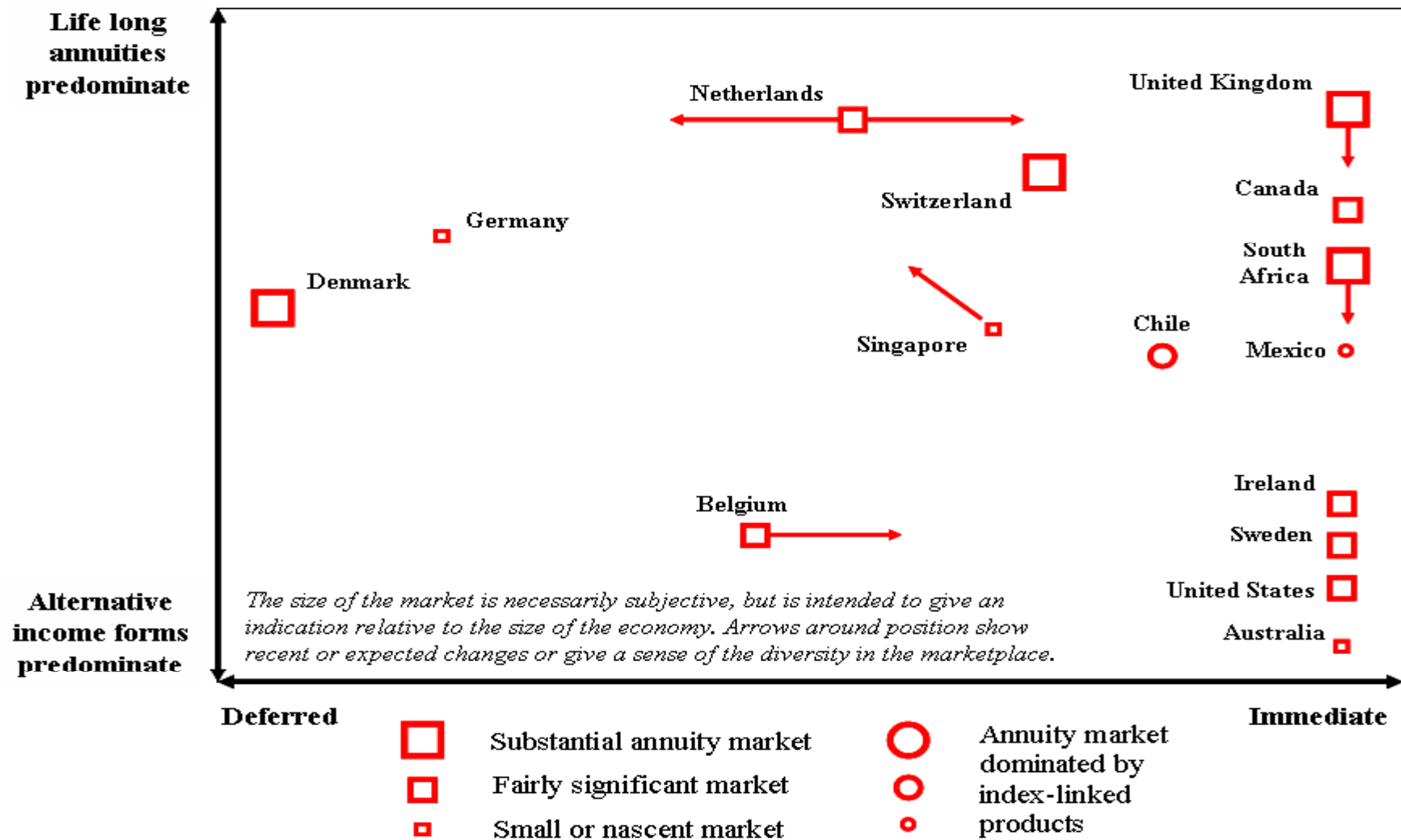
- The reality is that individuals fail to annuitize large part of their retirement wealth.
- As a result, the size of annuity markets is relatively small.
- The UK annuity market is the largest and more diversified market for annuities, followed by the USA, and Switzerland.

National Annuity Markets

- Three broad categories to describe national annuity markets
 - Markets of the immediate annuity type (UK, USA, Canada, South Africa, recently Chile)
 - Deferred annuity markets (Denmark, Belgium, Germany)
 - Other annuity markets (E.g. Switzerland: fix conversion factors at retirement for mandatory pension savings)

National Annuity Markets

Figure 1. Schematic representation of selected annuity markets



Why annuity markets are relatively small?

- There are demand and supply factors that deter further development of annuity markets.
- Demand factors include:
 - Crowding out by public pensions and DB pensions
 - Bequest motive
 - Personal circumstances (family support, need to cover the cost of medical care, etc.): precautionary savings
 - Dichotomy btw straightforward annuity products (easy to understand) and products that address as many needs as possible (costly): tradeoff
 - Tax disadvantages
 - Lack of enough/adequate financial knowledge/literacy.

Supply factors for low annuitization

- Adverse selection
- Lack of competition among providers.
- Exposure to the uncertainty surrounding future mortality and life expectancy outcomes (i.e. longevity risk).
- Lack of financial instruments to hedge longevity risk.
- Concerns with regulatory capital requirements given the risks involved.
- Incomplete markets: lack inflation protection, lack of exposure to equity markets.

Focus on supply constraints

- One of the factor behind the annuity “puzzle” is that annuity providers may not be able to supply adequate or enough annuity products.
- This results from the fact that providers of annuity products have to bear important risks (e.g. longevity and investment risk).
- Additionally, there is a lack of adequate or enough financial instruments to enable providers to hedge considerable parts of the associated risks

Solutions

- Solutions include to encourage the provision of financial instruments to hedge those risks and/or alternative annuity products that allow for risk sharing between annuitants and providers.
- Hedging financial products include longevity-indexed bonds (OECD, 2007/8) and ultra long-term financial instruments (30-yr government bonds).
- Alternative annuity products that permit sharing risks btw annuitants and providers may need to be backed by lower capital promoting annuitization.

Different type of annuity products

- There are different type of annuity products.
- They can be classified according to different criteria and different dimensions (horizontal not hierarchical)

Several dimensions to classify annuities

How they are financed

- Single premium
- Flexible premium (contributions)
 - Fixed
 - Variable

Primary purpose

- Immediate pay-out
- Deferred (accumulation)

Nature of the promised pension payments

- Fixed
- Variable (equity indexed), with profit.
- Indexed (e.g. inflation indexed)
- Annuities linked to life expectancy

Duration of the pay-out commitment

- Fixed-term or annuity certain
- Life annuity
- Temporary annuity
- Guarantee annuity

Providers

(accumulation or payout phase)

- Qualified
- Non-qualified

People covered

- Single
- Joint-and-survivor

Way the annuity is purchased

- Individual
- Group

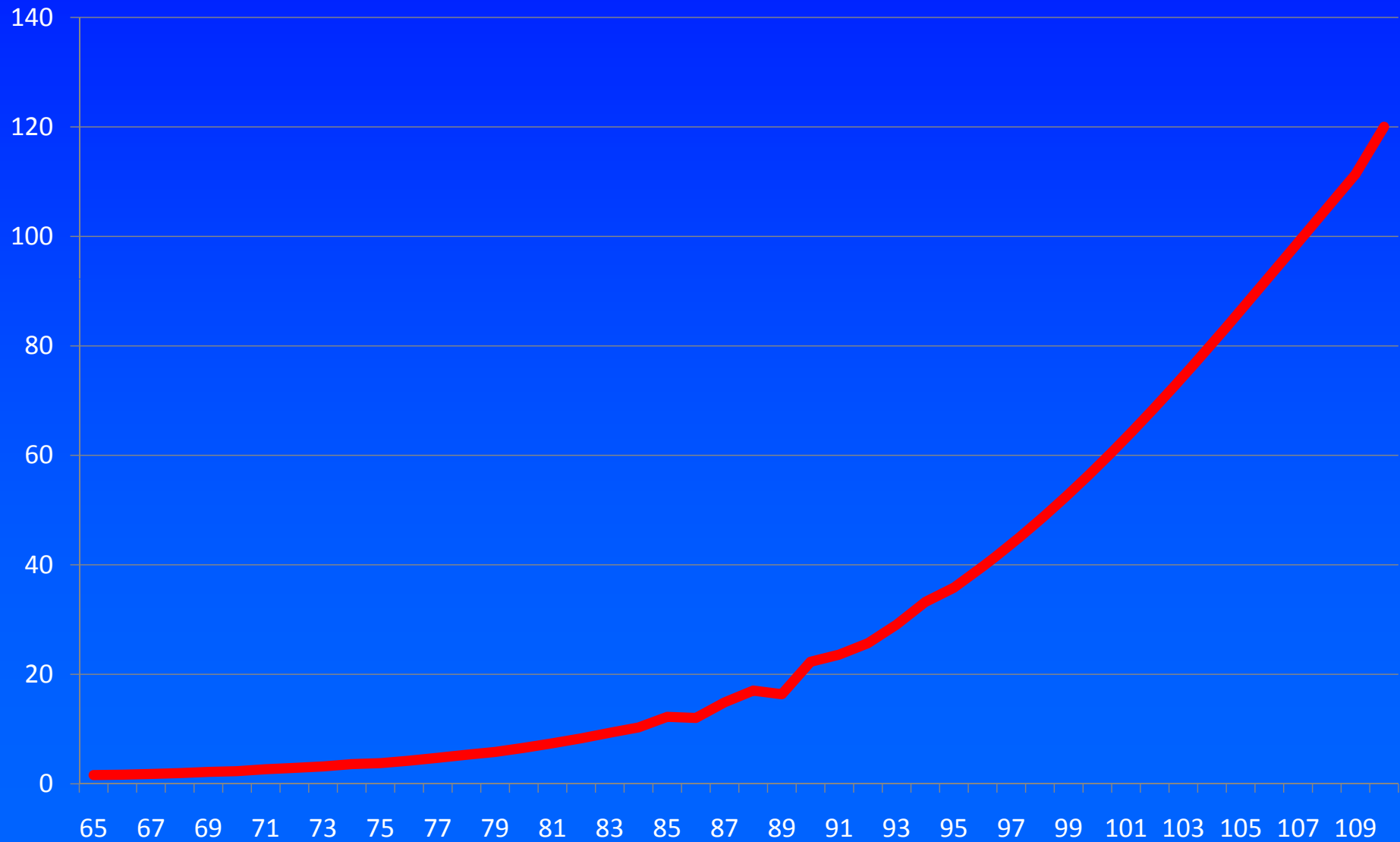
Others

- Tax advantages
- Enhanced vs impaired annuities

Risk sharing

- Annuity products sharing those risk
- Proposal on how to share those risks: deferred annuitization until $qx/(1-qx)$ = “cost of survival” big.

Costs of survival



Risk sharing

- Risk sharing means that providers will bear less risk and therefore they will need to put less capital aside (minimum capital requirements).
- Deferred annuity at 85 instead of immediate at 65, capital requirements requirements fall by 98%.
- Finally, risk sharing depends structure of pension system. Large share public pension → no need to annuitizes much, individual can bear more risks.

Annuity products, risks and guarantees

	Investment risk	Longevity risk	Inflation risk	Interest rate risk	Partner's protection	Provision of bequest	Facilitates accumulation
Programmed withdrawals, term annuity or annuity certain	No	No	No	No	Yes	Yes	No
Life annuity (single, fixed, nominal, immediate)	Yes	Yes	No	No	No	No	No
Joint and survivor life annuities	Yes	Yes	No	No	Yes	No	No
Guarantee life annuities	Yes	Yes	No	No	No	Maybe	No
Life joint annuities with bequest	Yes	Yes	No	No	Yes	Yes	No
Variable annuity	No	Yes	No	No	No	No	No
Fixed indexed life annuity	Yes	Yes	Yes	No	No	No	No
Deferred life annuity	Yes	Yes	No	No	No	No	Yes
Deferred joint indexed life annuity with bequest	Yes	Yes	Yes	No	Yes	Yes	Yes



THANK YOU

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