Society of Actuaries in Ireland

# Low Bond Yields

## *Life Insurance Perspective*

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9th October 2014

# Agenda

- Current Regulatory Environment
- Unit/Non-linked Liabilities
- Reinvestment
- New Business Pricing
- Solvency II
- Historical lessons from Japan

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# Current Regulatory Environment

- Current Regulations - Solvency I - S.I. 360 (1994)
- Key points in this context:
  - Assets valued at market value
  - Valuation interest rates derived from market yields
  - No credit for present value of future profits
  - Reserves calculated on policy by policy basis; no negative reserves
  - Lapse assumptions:
    - Unit-linked – effectively assume all policies lapse immediately
    - Non-linked – no lapse assumptions

# Unit-Linked Liabilities

- Liability determined by value of underlying assets
- Assume all policies lapse immediately
  - Assets held = value of liability to policyholder
  - Hold underlying assets => No investment risk to insurer
- Fixed Interest investment funds
  - May have made gains as yields fell
  - What is risk classification of fund?
  - Potential PRE issue if yields spike

# Non-Linked Liabilities

- Typically long term
  - May be lengthened by zero lapse assumption
- Typically involve guarantees, e.g. guaranteed:
  - Accumulation of benefit
  - Income stream
  - Payment on death
- Low interest rates increase cost of providing guarantees

  Especially if

  Guaranteed rate > currently available rates

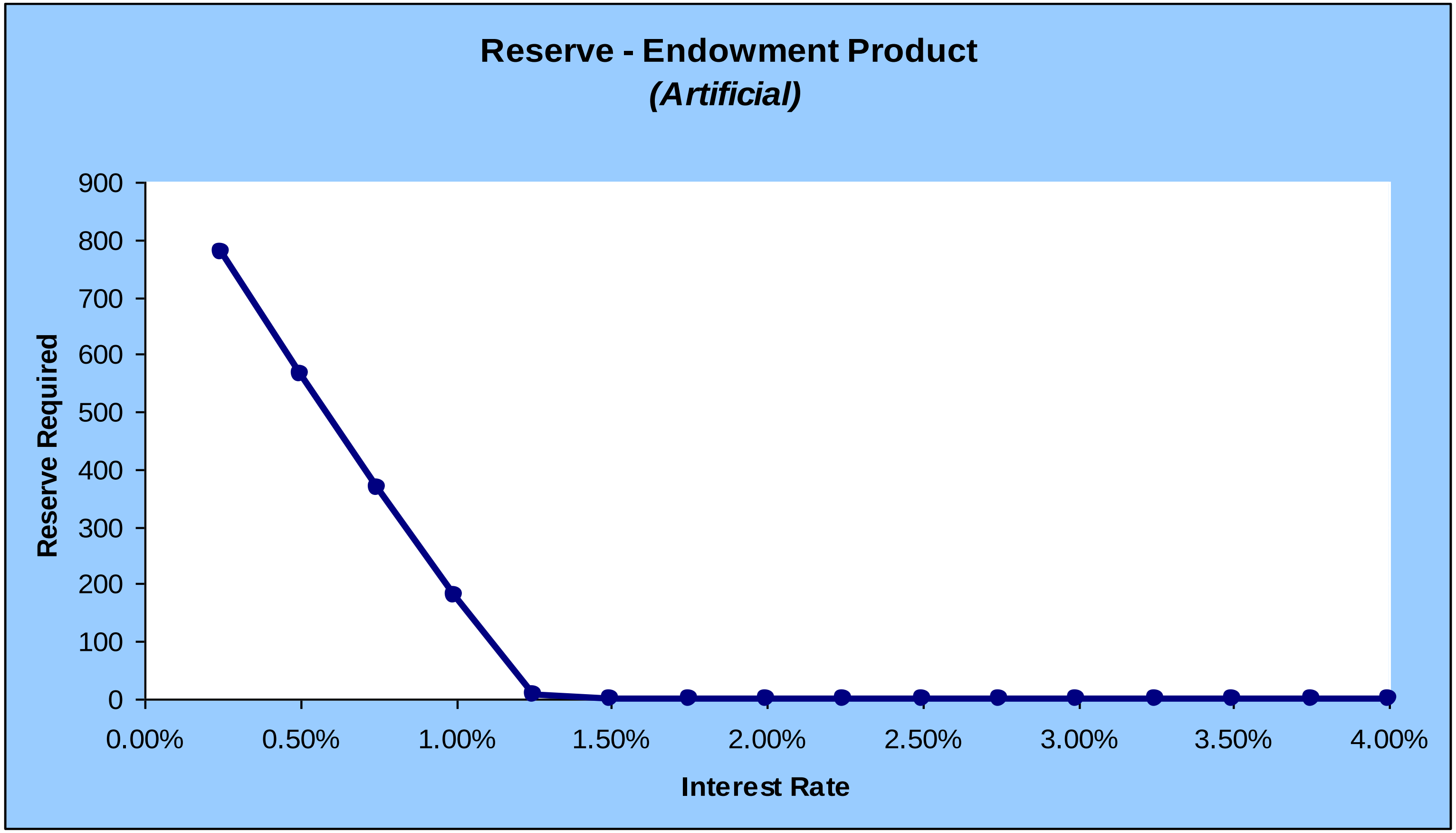
# Non-Linked Liabilities

- Matching assets hard to find
  - sufficiently long assets may be unavailable
  - Creates possible duration mismatch

- As rates fell, may have incurred capital strain:
  - Assets increased in value
  - Liabilities increased by more

- No negative reserve requirement => high liability convexity
  - Exacerbates above problem

# Convexity and Non-negative reserve




- Simple endowment to illustrate convexity issue
- Continued interest decline => sudden increase in reserves
- Risk may not have been captured in ALM at higher rates

# Reinvestment

- Long term liabilities vs shorter term assets
  - Assets mature before liabilities
  - Necessitates continued reinvestment/asset "roll-over"

- Reinvestment in current environment:
  - May "lock in" to lower rates
  - Implications for guarantees/capital strain

- S.I. 360 and reinvestment:
  - Cannot assume reinvestment rate > current yields
  - Capital planning – what rate will you actually achieve?

# New Business Pricing

- Current prices need to reflect current yields
  - Profit margins have been squeezed

- Annuity rates are a good example
  - New “sovereign annuities” no longer offer good value

- Difficult to:
  - Offer customers a product they want,
  - At a price they can afford,
  - But that rewards insurer for risk taken on.

# Solvency II

- Present value of future profits become an asset
  - May lead to divestment from existing assets
- Best estimate lapse assumptions allowed
  - May lead to a shortening in term of assets held
- Companies need to plan for transition:
  - Go now?
    - Crystallise recent asset gains as rates fell
    - May lead to higher SI reserves
  - Wait?
    - Yields may go back up
    - Many companies may execute similar transactions at same time

# Look to the East!

- Japan has experienced this before

- Actions taken by life insurers in Japan well documented:
  - Reduce guarantees on new business
  - Switch to less capital intensive products
  - Mergers
  - Streamlining of costs to maintain profit levels
  - Improved ongoing hedging strategies
  - Mortality profits covered losses on guarantees

# Summary

- Low interest rates has caused issues for life insurers
- Solvency II will bring other issues to the fore
  - Need to start planning now
- The following are key tools on an ongoing basis
  - Sound asset liability management
  - Capital modelling
  - Capital planning
- Japan experienced a protracted low rate environment.
  - It can happen here too.
  - Need to understand how it can affect you and what you can do