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# Asset-liability management for social security institutions

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**15 November 2012**

# Asset liability management for social security institutions

## Background

- International Social Security Association (ISSA)
- project for 2010-13 – “supporting sustainability” of social security institutions
- includes “financial sustainability”
- asset liability management fits within this
- survey of practice
- full results and write-up to be presented at ISSA seminar in Oman, Feb 2013

## Asset liability management for social security institutions

What is asset liability management (ALM)

- not (necessarily) matching assets exactly to liabilities
- "holistic" approach – consider assets and liabilities together
- asset liability model
- widely used in pensions, life assurance
- suitable for some social security institutions

## Asset liability management for social security institutions

### Asset liability management in risk management

- aim of risk management – to
  - “measure and understand risks”
  - “make risks transparent to decision-makers”
- NOT to eliminate risks
- 5 Ts: “treat”, “transfer”, “tolerate”, “terminate”, “take advantage”
- risk vs reward
- risk budget/risk appetite

# Asset liability management process – overview

1. Consider goals, objectives and beliefs
2. Determine liability and asset assumptions
3. Project assets and liabilities under different scenarios
4. Assessment of risk exposure
5. Analyse impact of changes

# Funding social security institutions – why?

- pay-as-you-go (PAYG): no funds? But…
  - liquidity
  - contingency margin/buffer fund
  - stabilise contribution rate
- funded
  - fully funded
  - partially funded
  - scaled premium
  - dealing with demographics

# Asset liability management for social security institutions

## Asset liability management – the risks covered

- market risk
  - interest rate risk
  - currency risk
  - inflation risk
- credit risk
- liquidity risk
- insurance and demographic risk – perhaps

# Asset liability management for social security institutions

## Asset liability management – bringing it together

- how do risks affect the institution?
- what is important to the institution
  - funding level
  - contribution rate
  - ability to pay benefits
- how do risks affect what is important?

# Asset liability management for social security institutions

## Asset liability management – questions answered

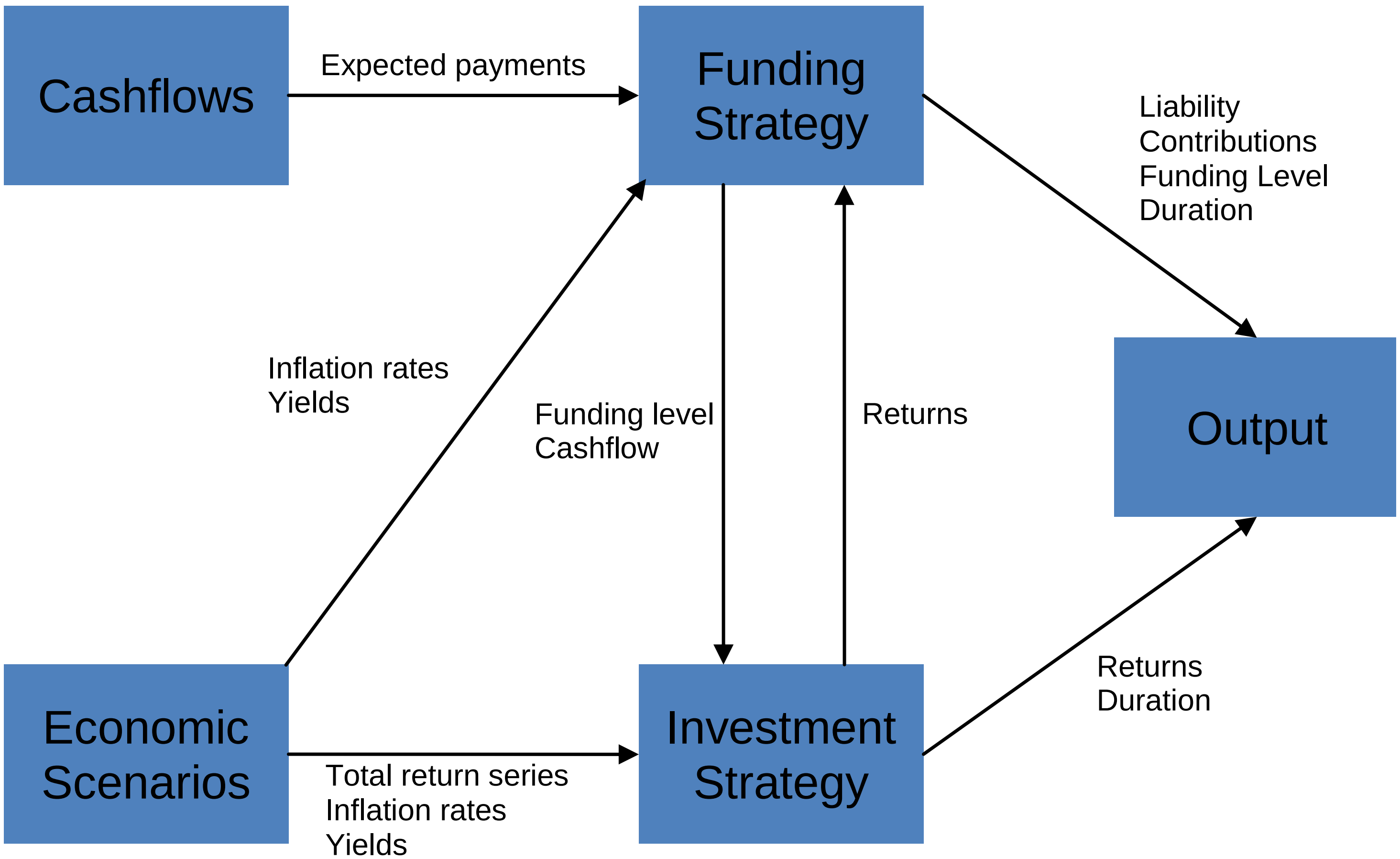
- Too much risk?
- Too little risk?
- Effect on risk and reward of changing asset classes – including possible new asset class
- Change in benefits/liabilities – change in assets also?
- Hedging

## Asset liability management – the model

- scenario
  - useful to test extreme events
  - what events cause failure?
- stochastic
  - variables included
  - distributions – not just means and variances
  - covariances/correlations
- avoid “black box”

# Asset liability management for social security institutions

## Asset liability model



# Asset liability management for social security institutions

## Why use asset liability management?

- just under ½ of institutions in survey used ALM
- typical assets – c US$200 million to US$130 billion
- reasons for using ALM
  - set investment policy
    - to maximise expected absolute return
    - to minimise risk of capital losses
    - to minimise risk that deficit (if any) will increase
  - balance risks and rewards

## Asset liability management for social security institutions

### Why use asset liability management?

- lessons learned from use of ALM – improvements to
  - understanding of risks
  - investment policy
  - also investment practice and funding policy
- 71% institutions had met aims set for ALM
  - for others, problems included
    - implementation of investments
    - modelling liabilities

# Asset liability management for social security institutions

## How to manage asset liability management

- need to define roles and responsibilities
- who oversees ALM?
- who carries out ALM?
- if external, how much is delegated?
- integration with other risk management
- key risk metrics covered

# Asset liability management for social security institutions

## How to manage asset liability management (cont)

- who oversees ALM
  - main board
  - investment committee of board
  - internal investment department
- who carries out ALM
  - internal
    - off-the-shelf model
    - bespoke model
  - external

# Asset liability management for social security institutions

## How to manage asset liability management (cont)

- how often are ALM exercises carried out?
  - continuously
  - at regular intervals
  - as and when required?
- responses suggest a mixture of approach

# Asset liability management for social security institutions

## Asset liability models

- potentially very complex
- scenario vs stochastic
- risks covered
  - market
  - interest rate
  - credit
  - liquidity
  - currency
  - inflation
  - longevity/mortality
  - other demographic
  - other

# Asset liability management for social security institutions

Asset liability models (cont)

- more asset classes covered = greater complexity
- perhaps also greater precision?
- possible assets included – both domestic and overseas:
  - bank deposits
  - treasury bills
  - government bonds
  - corporate bonds
  - quoted equities
  - private equity/direct ownership
  - property – direct or joint venture
  - derivatives
  - hedge funds

# Asset liability management for social security institutions

## Asset liability models (cont)

- Time horizon covered
- Generally between 10 and 20 years
  - Quite short in social security terms!
- Some rather longer

## Asset liability management for social security institutions

### Changes arising from asset liability management

- to introduce it
  - risk budgetting/setting risk appetite
  - changes to investment management
  - sometimes to legislation/investment guidance
- to improve its use in future
  - different risk metrics
  - more sophisticated asset liability model on asset side
  - improved modelling of liabilities
  - better reporting

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