Optimal Long-Term Allocation with Pension Fund Liabilities

by
Eric Jondeau & Michael Rockinger

Discussion by:
Peter Vlaar

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tomorrow is today

MAIN QUESTIONS

- What do we mean by Liabilities in a DC fund?
  - Is this consistent with the discount rate used?
- Why is new accrual taken into account?
- “Optimal” investment strategy nice in theory, but:
  - Utility function not known
  - Historical data might not be representative (means; cointegration)

WHAT DO WE MEAN BY LIABILITIES IN A DC FUND?

Benefits received by retirees are a fraction of the accumulated savings at time of retirement.

- Up to retirement all risks are for the workers:
  - Should be reflected in discount rate → expected returns
- After retirement (nominal?) benefits are fixed:
  - Discounting against risk free rate (but low duration)
- Why is there a guarantee fund?
- Why so many (30% in 2011) funds in deficit?
- Is it individual or collective DC?

WHY IS NEW ACCRUAL TAKEN INTO ACCOUNT?

- In paper future accrual is also part of liabilities
  - Assumed duration is at least 50 (at current rates probably ∞)
- Are future assets also considered?
- Are future benefits not automatically matched by returns on future contributions in DC?
- At low rates results are completely dominated by uncertain future
  - Unrelated to most relevant question:
    - Can current assets back current liabilities?

DATA RELIABILITY

Historical data are an important starting point of analysis, but should be combined with a view on the future:

- Historical averages not best estimate for future
  - Which history (here 85Q1 – 13Q2)?
- Cointegration tool risky in optimization as it assumes there is no risk in the long run (bullshit article by Benzoni et al)
- Term structure of risk results based on VECM(1) are not robust
- Extreme benefits (15% per year) likely due to datamining

TO CONCLUDE

- The authors perform an heroic task to model the economic and financial interaction in three currency blocks simultaneously
- I do not share their amount of trust in historical data and statistics
- I would prefer a closed fund analysis
- I do agree that it is optimal for a pension fund to be short on cash and long in long-term bonds
  - We call this an interest rate swap
  - Why still the case under the assumed rising interest rates?