

# Activities Amsterdam node 2008:4 – 2009:4

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# Introduction

- The main reasons for a pension system is intergenerational risk sharing (Bohn, 2001)
- In a series of papers we extended the Beetsma & Bovenberg framework to investigate
  - Whether it is possible to mimic a ‘first best’ allocation with a two pillar pension system
  - How to design this two pillar pension system
- We have three extensions
  - Endogenous labour supply
  - International risk sharing
  - Demographic risk

# Labour Market

- Research question
  - Can we mimic the first-best allocation with endogenous labour supply?
- Answer
  - We can, using a setup where we link the pension fund benefits to the aggregate wages of the next generation.
- Intuition
  - Linking benefits to individual wages distorts labour supply, linking them to the aggregate wage sum (think of wage-linked bonds) has no effect on the labour supply decision.
- Published as a CESifo Working Paper

# International risk sharing

- Research question
  - Is it possible to share productivity and financial risks optimally in an international setting?
- Answer
  - Yes, but only with international coordination
  - Without coordination every country will overinvest in its own economy, which causes an home-bias.
- Intuition
  - Investing more in your own country raises the capital/labour ratio, which increases wages
  - This wage effect dominates the effect of imperfect diversification
- Published as a CEPR Working Paper

# Demographic risk

- Research question
  - Can we mimic the first best allocation if population growth is uncertain?
- Answer
  - In a perfect world we can. In reality we can get very close to the first best allocation for reasonable shocks.
- Intuition
  - Demographic shocks have a non-linear effect on factor prices.
  - To share these shocks we need instruments with non-linear payout structures.
  - These are generally not available but the welfare loss of not having them is quite small.

# Behaviour of pension funds

- Much is known about the **optimal** behaviour of a pension fund
- Together with the CPB and DNB we started a project that looks at **actual** behaviour of pension funds
- Specifically we want to explain
  - The type of pension contract
  - The response of pension funds to economic shocks
- Current status
  - DNB has (almost) given permission to use supervisory data of all pension funds from 1992 to 2007/2008

# Pension buffer policy – main results

- High volatility of buffers
- High probability of underfunding
- Main source of volatility buffers (around 2/3) is due to stochastic yield curve discounting of liabilities