The Value of Collective Pension Contracts

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December 6, 2013

Netspar

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Network for Studies on Pensions, Aging and Retirement

Reinventing pensions

- Discussion on reforming pension funds
  - Population ageing
  - Economic crisis
- Is privatization of pensions the solution?
- Differences between private and collective pension schemes
  - Risk sharing with future generations
  - Risk sharing between workers and retirees
  - Life cycle investment policies

Features of our analysis

- We construct a number of pension contracts
  - individual
  - first-best
  - real-world contracts (4 of them)
- We adopt numerical simulation in order to compare the different contracts

Motivation of our analysis

- Transition period
- Distinction between different generations, including yet unborn ones
- Welfare analysis
  - level of consumption
  - stability of consumption
- Absence of private capital markets

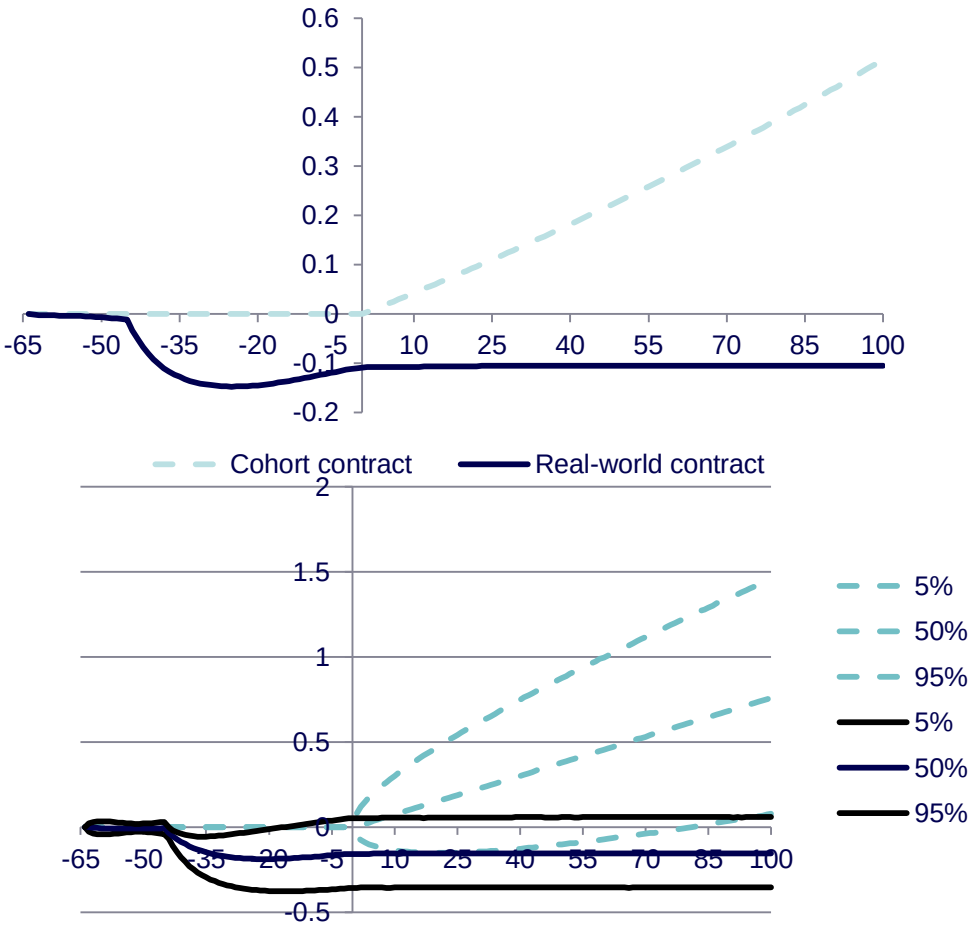
General assumptions

- Isoelastic preferences
- Investment alternatives: risky equity and risk-free bonds
- Welfare measure for generation *i*
- Measure of aggregate welfare

Real-world contract

- Contribution rule
  - link between contribution rate and funding ratio (λ_{pp})
- Pension rule (indexation rule)
  - link between rate of indexation and funding ratio (λ_{π})
- Investment rule
  - link between equity investments and financial wealth (age-independent)

Real-world contract II



Real-world contract

	BM	Alt. 1	Alt. 2	Alt. 3
λ_{π}	0.1	0.1	0.05	0.01
λ_{pp}	0.0	0.1	0.1	0.2
AEV (% of wealth)	-11	-9	-8	1
- imperfect smoothing	-11	-10	-18	-60
- IRS	1	1	10	61

Caveats

- Distortive effects of collective pension schemes upon labor markets
- Private capital markets
- What is the appropriate utility function?
  - Degree of risk aversion
  - Habit formation
  - Prospect theory
- Not only equity is risky (bonds, human capital)

Conclusions

- The gains from risk sharing with future generations are modest
- The losses due to imperfect consumption smoothing are big

	Collective scheme	Individual scheme
IRS	+	-
Investment and contribution policies	--	++