Centraal Planbureau

Risk sharing in funded pension systems

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Recent developments

- DB no longer feasible
  - Ageing of population, increase contribution less effective
  - New accountancy rules
  - Risks are borne by participants of the fund

- Collective DC contracts
  - The Netherlands, UK?

- Individual DC contracts
  - Australia, Canada, UK, Denmark, Sweden, US

Research question

- What is impact of financial shocks in real-world funded pension systems?
  - Equity market risk, inflation risk, interest rate risk

- Theoretical literature
  - Optimal allocation of shocks if consumption effect is spread evenly over all current and future generations

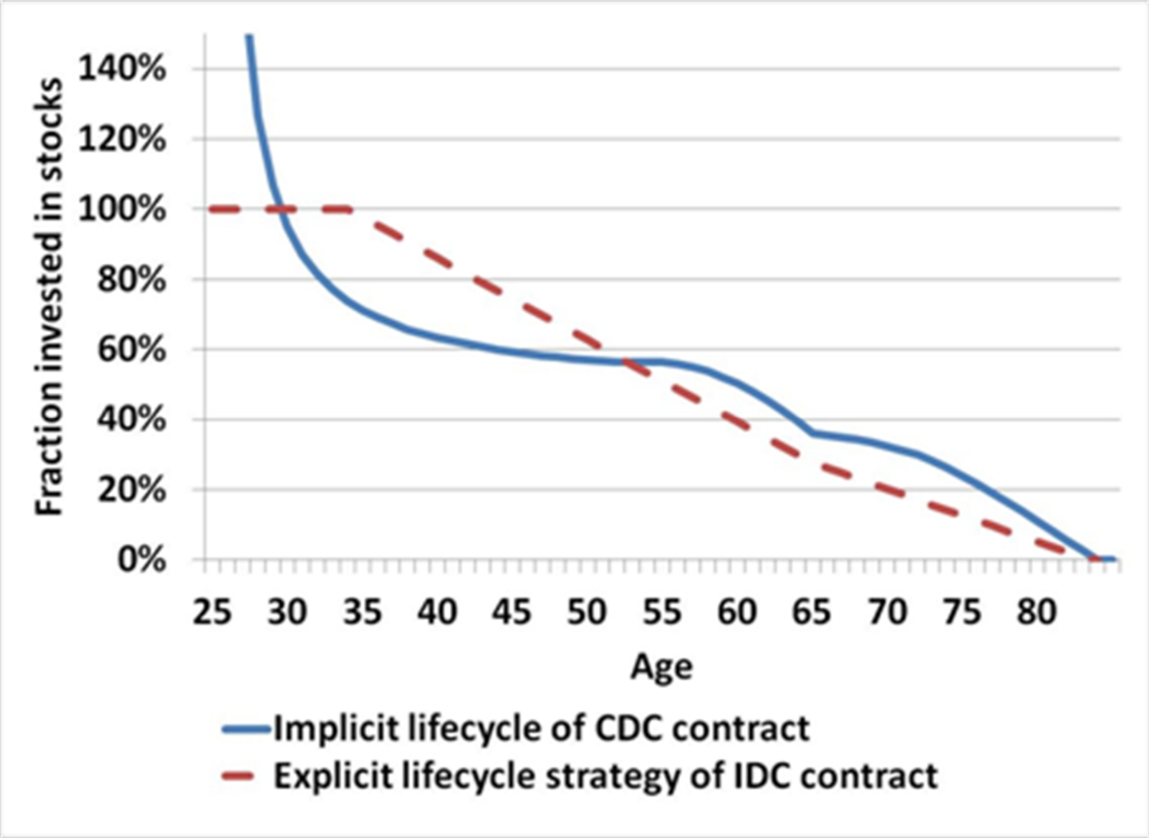
- In practice
  - Discontinuity risk if fund's deficit or surplus for future generations is large

Hypotheses

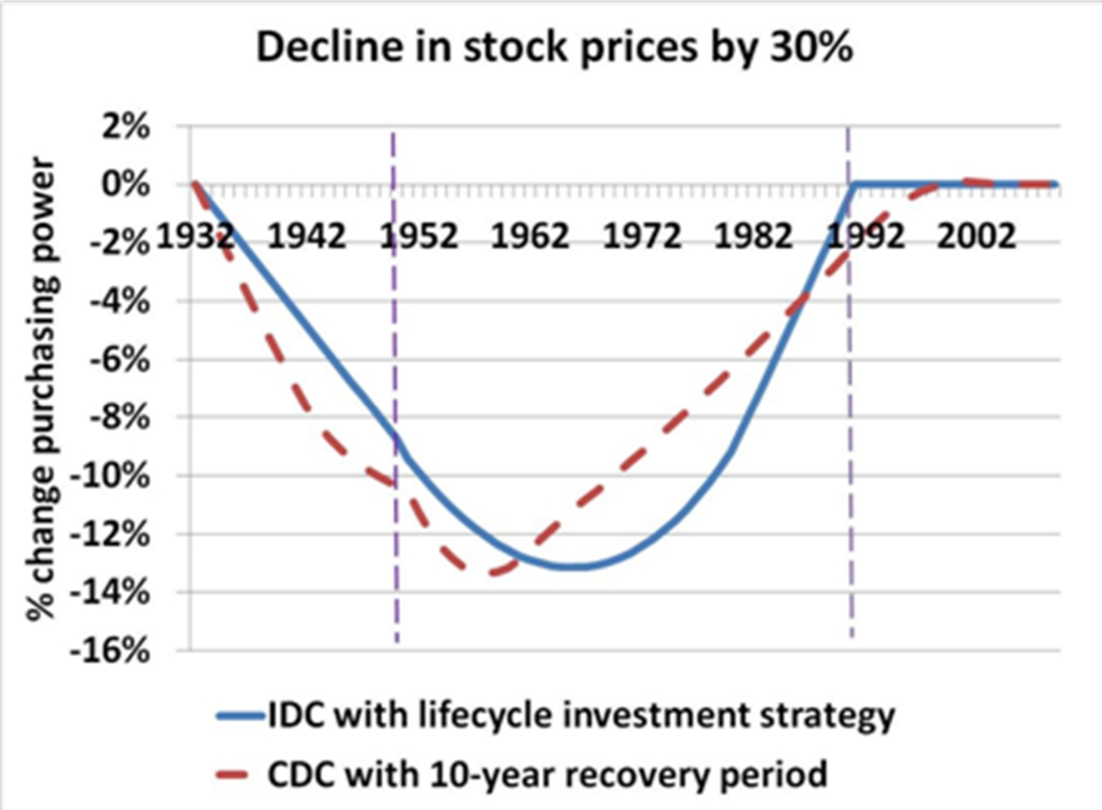
1. Collective contracts provide risk sharing with future generations and lift borrowing constraint of younger generations
    - Risks are shared between generations by smoothing financial shocks via collective buffer

2. Collective contracts provide more efficient allocation of non-tradable risk, such as inflation risk, than individual contracts

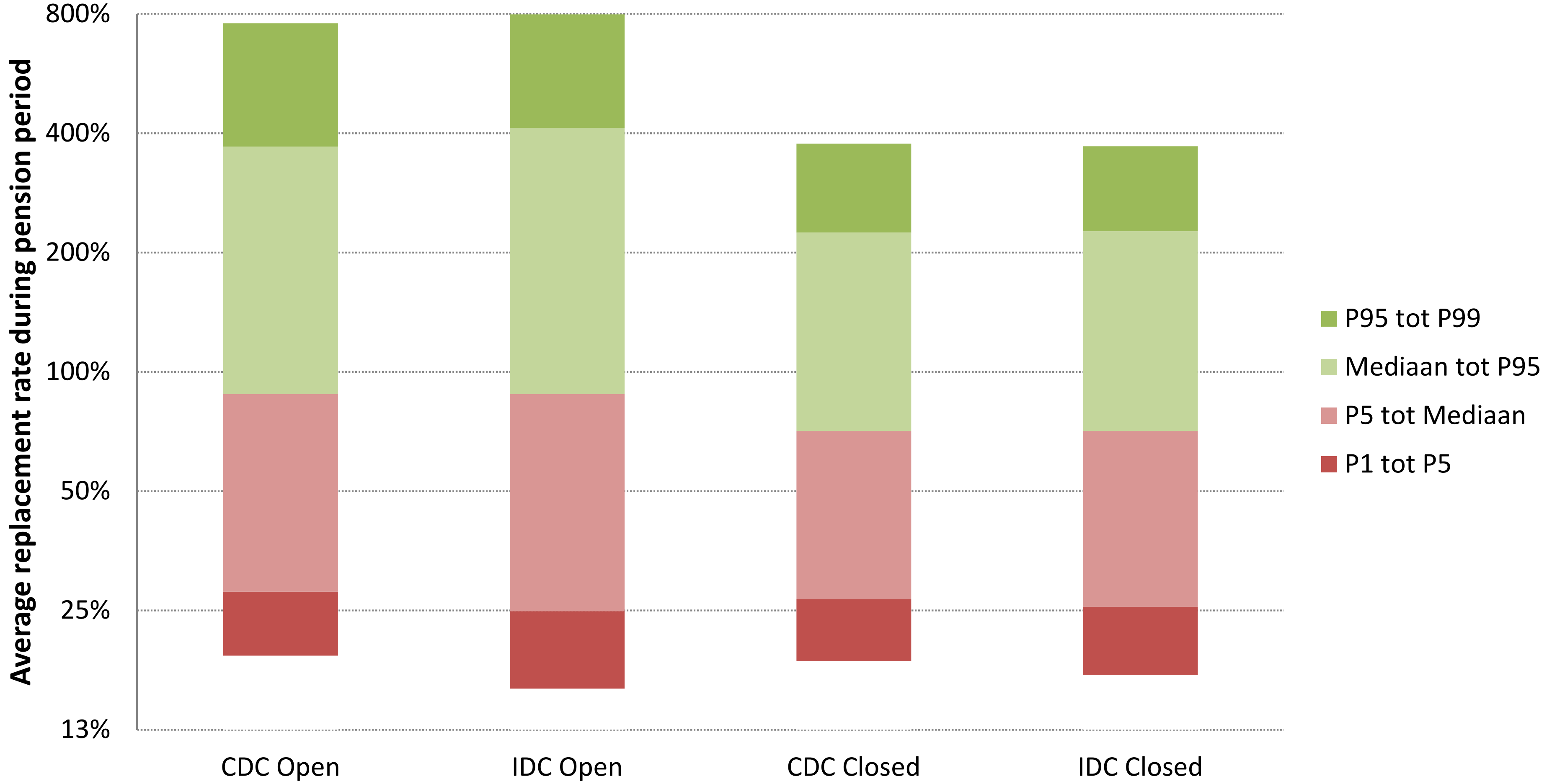
Equity risk in IDC/CDC in life cycle nearly similar, except around labour market entry



Decline in stock prices affects middle ages most in IDC and CDC, shift to future in CDC is limited



Uncertainty replacement rate in CDC < IDC



Conclusions

- Spread equity risk over long horizon is rewarded
  - Equity risk during retirement should be allowed
  - Equity risk before entry possible with collective buffer

- Replication of CDC in IDC
  - CDC without risk sharing with future participants reasonably replicable in IDC
  - CDC with risk sharing with future participants gives somewhat better results in bad states than IDC

- CDC with risk sharing with future participants is less transparant about individual property rights