Macroeconomic and Welfare Implications of Different Pension Benefit Arrangements

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Summary

- If we abstract from general equilibirum effects
  - The FL pension system is better at low levels of contributions because of the income insurance effects.
  - The NDC pension system is better at high levels of contributions because of less labor supply distortions.
- If we include general equilibrium effects
  - A higher distortion on labor supply implies a lower distortion on savings. Since the FL system distorts savings less, it may be more desirable under any level of contributions.

Model

- Households

$$\max u(c_t^y) + \beta \mathbf{E} u(c_{t+1}^o(z), l_{t+1}^o(z))$$

subject to

$$c_t^y + a_t = w_t z(1 - \tau_t)$$
$$c_{t+1}^o(z) = a_t(1 + r_{t+1}) + w_{t+1} z l_{t+1}^o(z)(1 - \tau_{t+1}) + b_{t+1}(z)$$
$$l_{t+1}^o \in [0, 1)$$

FL VS NDC

- Under the Flat Benefit system,

$$\frac{-u_l(c^o_{t+1}(z), l^o_{t+1}(z))}{u_c(c^o_{t+1}(z), l^o_{t+1}(z))} = w_{t+1}z(1-\tau_{t+1})$$

- Under the Notional Defined Contribution system,

$$\frac{-u_l(c^o_{t+1}(z), l^o_{t+1}(z))}{u_c(c^o_{t+1}(z), l^o_{t+1}(z))} = w_{t+1}z$$

Comment

- You assume that agents have the same earnings $w\bar{z}$ when young. In the model the young agents have idiosyncratic earnings risk $w_t z$.
- Does FL pension system reduces idiosyncratic earnings risk or does it reduces income inequality?
- How do you define old age? If it is after retirement (age 65), your income after retirement is not subject to the pension tax; if it is before retirement (age 55), I wonder why the FL pension system doesn't distort your labor supply before the age 55.

Comment

- All results are obtained under Assumption 1 ($\delta = 1, \sigma = 1, A_t = A$). How important is Assumption 1? Are the results robust to other settings?
- With heterogeneous wage income, I would assume that FL pension transfers wealth from high income individuals to low income individuals. It is not welfare improving for everyone.
- You mentioned that the NDC pension system in Germany, Italy, France and Poland are explained by the lower labor supply distortions. This comes from the partial equilibrium analysis (r,k are fixed). Are these countries small open economies?