Optimal Disability Insurance with Informal Child Care
Christine Ho
University College London

Aim:
Design an optimal disability insurance scheme taking into account the fact that elderly agents can engage in informal grandchild care activities.

Framework:

1. Background and Motivation

US Social Security Disability Insurance
- No. of Beneficiaries: 7.1m in 2007
- Proportion of female recipients: 48% in 2007
- US Grandparent involvement in Grandchild Care
- Proportion children under 15 living with grandparents: 6.3% in 2000
- Proportion children under 5 with employed mothers using grandparent as primary day care arrangement: 19.6% in 2005
- On average 24 hours of grandchild care per week

2. Static Model

Risk neutral social planner providing disability insurance to agent
- Assumption: agent more productive on the formal market than when taking care of children
- Moral hazard
- Planner cannot observe disability shock
- Planner cannot observe informal child care activities

3. Qualitative Results

Efficiency case for child care subsidies
- Proposition 1: There is a positive wedge between the social return from informal child care and the family’s private return from informal child care
- Informal child care exacerbates work incentives

4. Overlapping Generations Model

Reciprocal formulation with persistence in privately observed shocks [Fernandez & Phelan (2000)]
- Planner minimises expected cost s.t. promise keeping, threat keeping, and incentive compatibility constraints

5. Quantitative Results

Child care needs and optimal benefits
- For a working grandparent
  - Without child care needs, benefits and consumption increase over the life cycle until retired
  - With child care needs, consumption increases to preserve work incentives but benefits decreases due to declining child care need

Efficiency case for positive subsidies on formal child care
- Implementation of the optimal policy as though informal child care were observable
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- Unobservable informal child care and lump sum transfers
- Unobservable informal child care leads to the exacerbation of work incentives
- Healthy grandparents get higher consumption and benefits
- Grandparents claiming disabled at age 52 get higher consumption and benefits when there are child care needs in order to discourage informal child care activities

Child care subsidies to formal child care
- Optimal subsidies for a family with a grandparent disabled at age 52
- Optimal to have an varying upper threshold on child care subsidies that decreases as child care needs decrease
- Note that the optimal subsidies would decrease over the life cycle if marginal cost of formal child care were to decrease as the child gets older

Average tax rate
- Optimal ATR lower compared to US ATR for healthy families
- Optimal ATR higher compared to US ATR for disabled families

Cost Savings
- Adapting the optimal scheme with lump sum transfers can lead to sizeable cost savings of around 3.4%
- The additional use of child care subsidies as policy instrument leads to cost savings of small magnitude of around 0.52%