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# ECONOMICS OF INFORMAL CARE

# Informal Care (1)

- Defined as **unpaid care**
- Typically given by adult children to their elderly parents
- Most common form of LTC
- Yet long ignored by economists

# Informal Care (2)

- Implications for
  - Family bargaining over shared resources
  - Expenditures on other health care
  - Health of receiver *and* caregiver
  - Implicit and explicit transfers of time and money
  - Ripple effects to spouses, caregiver's siblings, other providers of care

# Outline

- Background
- Economic models
  - Supply
  - Formal care
  - Bargaining over living arrangements
- Empirical Research
  - Formal care
  - Inter-vivos transfers
  - Caregivers

# Background (1)

- Hard to quantify amount (no receipts)
- International reliance on informal care
  - US: among US elderly living in community with needs, 2/3 use informal care exclusively; 90% use some
  - Europe: Highest rates in Netherlands and Sweden, lowest in Spain and Italy
  - Japan: continued reliance on informal care even with LTC insurance
- O'Brien 2005; Bolin et al. 2008; Hanaoka & Norton 2008

## Background (2)

- Hard to quantify monetary value (time is unreported)
- Economic value estimated at \$375b in US
- Market value of informal care roughly double that of formal long-term care care in US
- Direct costs exclude effects on caregivers' health, formal care \$, labor market
- Arno et al. 2007; Gibson & Houser 2007

# Models of Informal Care

1. Decision to supply informal care
2. Relationship between informal and formal care
3. Family bargaining over living arrangements

# Models: Supply

- Focus on child's decision: tradeoffs, returns
- Labor theory
  - Wages (substitution and income effects)
  - Long-run wages and productivity
  - MRS between caregiving, leisure, and work
  - Efficiency of caregiving
  - Transfers and bequests
- Nocera & Zweifel 1996; Norton 2000; Heitmueller 2007; Lilly et al. 2007

# Models: Formal Care

- Informal care can be substitute or complement to formal care
- Substitute is obvious
  - For nursing home and home health
- Complement if caregiver ...
  - Notices problem, makes appointment, drives
- Effects likely smaller if married, different effectiveness for sons and non-children
- Van Houtven & Norton 2004, 2008

# Models: Bargaining (1)

- Family bargaining over living arrangements
  - Living in same household
- Most by Steven Stern and colleagues
- Literature has creative theory, serious thought about dynamics
- Stern 1995; Pezzin & Schone 1999; Checkovich & Stern 2002

# Models: Bargaining (2)

- Game theory
  - Generally two periods: 1) make decisions and 2) make side payments
  - Family members have different preferences for living arrangements
  - Incentives and burdens for providing informal care depend on others actions, free-rider problem
- Pezzin et al. 2007; Byrne et al. 2009

# Models: Bargaining (3)

- Three themes
  - Joint decision-making leads to inefficient decision
  - Debate about structural vs. non-structural
  - Recent empirical work uses dynamics
- Hiedemann & Stern 1999; Engers & Stern 2002; Dostie & Leger 2005; Fontaine et al. 2009; Mentzakis et al. 2009; Michaud et al. 2010

# Empirical Research

- Effect of informal care on
  - Formal care and health care expenditures
  - Inter-vivos transfers
  - Caregivers

# Formal Care (1)

- US (HRS data)
- Informal care reduces home health care and nursing home use, are substitutes
- Van Houtven & Norton 2004; LoSasso & Johnson 2002; Charles & Sevak 2005; Van Houtven & Norton 2008

## Formal Care (2)

- Europe (SHARE)
- Also find substitutes for other forms of long-term care, but mostly low skill
- Complement to doctor and hospital use
- Bolin, Lindgren, Lundberg 2008; Bonsang 2009

# Inter-vivos Transfers (1)

- Puzzle: why do so many adult children give freely of their time?
- Is informal care really unpaid?
- Intergenerational transfers of time and money
- Are informal care and transfers of money causally related?
- Children who provide informal care are more likely to receive inter-vivos transfers

# Inter-vivos Transfers (2)

- Inter-vivos transfers amount to hundreds of billions of dollars each year from parents to children in US
- Motives
  - Altruism
  - Exchange
- Early literature argued bequests used for exchange
- Cox & Soldo 2004; Bernheim et al. 1985; Bernheim 1991; Norton & Sloan 1997

# Inter-vivos Transfers (3)

- Three stylized facts
  - Bequests are divided equally
  - Inter-vivos transfers are not divided equally
  - Informal care not equal among children
- Transfers are better for incentives
  - Adjust terms quickly, less expensive to revise than a will, can keep secret from other family members
- Menchik 1980; Tomes 1981; Norton & Taylor 2005; Norton & Van Houtven 2006

# Theory (1)

- Primary focus is on exchange, the idea that elderly parents will exchange money for IC
- Basic prediction is more IC leads to more \$
- But not typical market
  - Supply of children is limited
  - Wealth effect: wealthier parents have more \$
  - Opportunity costs: pay richer children more
  - Altruism: give more to poor children

## Theory (2)

- Supply of IC depends on several factors
  - Earn money
  - Care for parent's health
  - Transfers should be increasing in hours, quality of care, opportunity cost of time
  - Filial duty stronger if only-child or live closer
  - Set example to grandchildren "pay it forward"

# Empirical Challenges (1)

- Hard to quantify: endogeneity, measurement
- Endogeneity
  - Informal care not provided randomly
  - More likely to give IC if believe will receive \$
- Measurement issues
  - Hard to get accurate information on transfers
  - Want good information on number of hours and amount of transfers

## Empirical Challenges (2)

- Methodologically try to control for endogeneity, compare siblings within families
- Use panel data with more detailed information about transfers
- Attempts to measure both extensive and intensive margins
- Norton and Van Houtven (2006); Norton, Nicholas, Huang (2014)

# Results (1)

- Transfers of cash more likely if adult child provides informal care
- Intended bequests unrelated to informal care
- Norton and Van Houtven (2006)

## Results (2)

- Evidence for altruism for financial transfers, more \$ for low income children
- Married children less likely to receive transfers
- Biological children more likely to receive any transfers (financial unrelated)
- Providing any informal care increases the probability of any financial transfers
- No effect, however, on intensive margin for either number of hours or amount of money
- Norton, Nicholas, Huang (2014)

# Caregiver's Labor Supply

- Informal care can affect labor on the extensive and intensive margins
- Also lower future wages, fewer promotions
- Informal care presumably endogenous
- Carmichael & Charles 2003; Crespo 2006; Heitmueller 2007; Heitmueller & Inglis 2007; Bolin et al. 2008; Van Houtven et al. 2010; Casado-Martin et al. 2010;

# Caregivers' Health

- Providing informal care may help receiver, but harm informal caregiver
- Early literature mostly clinical, poor study design
- More recent studies have better study design
- Informal care adversely affects caregiver's health
- Immediate effects on depression and mental health
- Physical health declines after 2 years
- Hirst 2004 & 2005; Coe and Van Houtven 2009

# Caregiver's Health in Korea

- Daughters-in-law who provide informal care have worse health
- Measures of physical health, also health care use and medication
- Caregivers spend \$200 more per year on health care
- Control for endogeneity
- Do, Norton, Stearns, Van Houtven (2015)

# Conclusions

- Informal care is interesting to economists
- Common form of long-term care
- Requires joint decision-making within and across households
- May involve exchange of time and money
- Affects other health care providers
- Fruitful area for further research

# References

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