Who will take care of granny?
The economics of Long-Term Care

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Introduction

- Long-term care (LTC) concerns people who depend on help to carry out daily activities such as eating, bathing, dressing, going to bed, getting up or using the toilet.
- Delivered
  - **informally** by families,
  - **formally** by professional care assistants, at home or in institutions.
- In most industrialized countries governments are involved in some in the provision or financing of long-term care services.
- Distinguish LTC from health care and particularly hospice care!

Paths to dependency

- Dependency can (roughly speaking) arise from two different sources.
- First: chronic diseases like diabetes, some types of cancer or cardiovascular affections
  - can lead to various forms of impediments at a relatively “young” age (individuals beyond 50 or even younger).
  - often related to lifestyle (unhealthy diet, lack of exercise, etc.) and like many diseases their incidence tends to be negatively correlated to income (and education).

- Second: cognitive impairments (like Alzheimer and other forms of dementia); occurs typically at a much later age (80+).
- I will concentrate on this “old age dependency”; major challenge in the decades to come because of population aging.

What is the problem?

Demand side

- Dramatic increase expected.
- The relative importance of people aged 65+ (80+) will more than double (triple) by 2050.
- Main groups at risk for dependency.

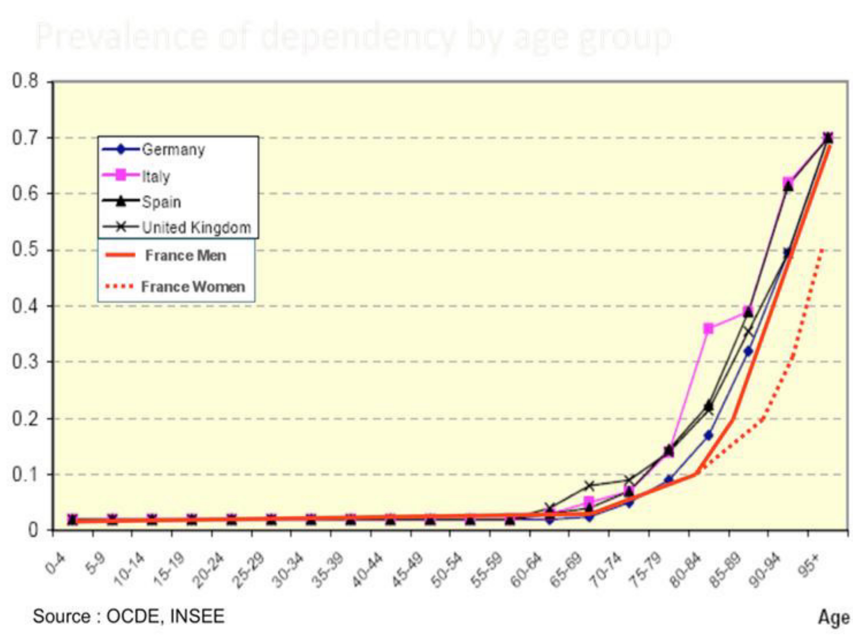

Figure 1: Dependency rates per age in Europe

- In EU27, the number of dependent elderly will increase by 115% over the period 2007–2060.
- It will increase by 128% for EU10, the “Old Europe”.
- Public expenditure is forecasted to increase by 115% on average for the EU27 over the period 2007–2060.
- The projected increase ranges from 65% in France and the UK to 175% and above in the Czech Republic, Spain, Malta, Poland, Romania and Slovakia.
- Forecasts based on existing policies and current ratio of formal vs family care.

Supply side

- Currently significant provider: the family; spouses, children, mainly daughters.
- However, the number of dependent elderly who cannot count on the assistance of anyone is increasing:
  - drastic change in family values,
  - the growing number of childless households,
  - mobility of children.
- Both the market and the state are lacking.

Outline

- The three institutions: pluses minuses and problems:
  - Family,
  - Market,
  - State.
- Illustration of recent research topics:
  - Design of LTC insurance contract.
  - Social LTC insurance and redistribution.
  - Gender issues: the good daughter penalty.
  - Uncertain altruism and exchanges within the family.

Part 1
Generalities

The role of family solidarity

- Many seniors with LTC needs reside in their or their relatives' home, and rely largely on volunteer care from family members.
- Includes seniors with severe impairments (unable to perform at least four activities of daily living).
- In addition, many people who do pay for care in their home also rely on some free services.
- The economic value of volunteer care is significant, although estimates of it are highly uncertain.
- No good and reliable data on informal care; mostly self-reports.
- Range from 1/3 to 1/2 or even 2/3 of total care, with odd results, like Sweden being ahead of Italy.

Sustainable?

- Changes in family values.
- Increasing number of childless households.
- Mobility of children.
- Increasing labor force participation of women.

Desirable?

- No budgetary cost, but huge cost imposed on caregivers.
- Monetary: "good daughter penalty".
- Psychological: caregiver referred to as second patient.

Motivation for family solidarity

- Fairy tale view: altruism
  - Perfect (utility of children depends on utility of parents).
  - Warm glow (utility depends on the act of giving, caring, *etc.*).
- Forced altruism: social norms.
- Strategic considerations:
  - Parents use gift or (promise) of bequest to "buy" care.
  - May be complementary to altruism, used to pay for supplement.
  - Evidence mostly for gifts (inter vivos).
  - No commitment: "rotten kids" setting.

- Why important: pervasive issue of “crowding out”.
- Basic idea: social or private insurance reduces family care.
- Extent of crowding out depends on motive:
  - more important under perfect than under warm glow altruism,
  - limited (at least in the short run) when social norms apply,
  - more complicated under exchange; can be negative in strategic settings.
- Must be accounted for when designing policy.
- May be a “bad thing” or a “good thing”.

Private insurance

- Significant risk:
  - The probability that a 65-year old will use a nursing home is quite significant, with estimates ranging from 35% to 49% (Brown and Finkelstein, 2009).
  - Care provided in a nursing home may be expensive, *e.g.*, a single bedroom in a nursing home can cost up to $75,000 per year (Genworth, 2010).
- One would expect risk averse individuals to buy insurance protection.
- In reality market is very thin in most countries: LT care insurance "puzzle".

Possible explanations for LTC insurance puzzle

- Underestimation of dependence risk.
- Crowding out by social assistance.
- Adverse selection.
- (Ex-post) moral hazard.
- Altruism.
- Cost of LTC insurance.

Social LTC insurance

- Very few countries with explicit LTC social insurance programs (examples France, Germany and Belgium).
- Programs are not very generous: they only cover a small fraction of LTC cost (typically 500€ per month in Flanders) and yet their sustainability is uncertain. Exception: Scandinavian countries.
- Most developed of these schemes: Germany, introduced in 1995, provided along with health insurance.
- Remark: in most countries health care systems cover the medical aspects of dependence and the assistance side of social protection provides means-tested LTC nursing services (Medicaid in the US).

Pluses of government intervention

- Possibility to redistribute: help the poor who cannot afford private insurance.
- Private insurances redistributes between *ex post*, but cannot insure people against the "risk of being a bad risk" or having low wealth.
- Significant because extent of "damage" depends on wealth.
  - Wealthy individuals can afford to pay $150000 (even though randomness of bequest is not optimal); they can "self-insure".
  - Poor individuals: can't pay.
- Possibility to mitigate adverse selection.

Problems

- Appropriate instrument for redistribution? Conceptually and in practice ("abuse" of medicaid by middle class).
- Crowding out of both family care and private insurance.
- Distortions related to tax financing.
- How to limit costs?

Part 2
Illustration of recent research

Common themes

- Policy design: normative approach: what should be done?
- Take the point of view of economic advisor to government.
- Restrictions and constraints:
  - Asymmetric information.
  - Family decision making.

- In other words, public policies cannot just dictate individual behavior
  - many relevant decisions are not observable,
  - social policies have to be balanced against individual freedom and they must account for the induced adjustments in family decision making,
  - for instance, LTC policies must account for their impact on informal care.

Design of LTC insurance contract

- Lump-sum or cost reimbursement (or in between): France vs US.
- Similar problem as for health care.
- Problem of asymmetric information:
  - individual needs are not publicly observable,
  - possibility of *ex post* moral hazard,
  - informal caregivers have better information than government.
- Lump-sum: good incentives for cost reduction, but leaves "rent" to insurees.
- Cost reimbursement: no incentives for cost reduction, but no "rents".

- Optimal contract strikes balance between these conflicting effects (but in other settings it is often closer to lump-sum than to cost reimbursement).
- LTC extra dimension because of crowding out family aid; *ex post* hazard is more significant than for health insurance.
- Crowding out is more significant under cost reimbursement than under lump-sum.
- Results show that presence of informal care pleads for "flatter" contracts (lower marginal reimbursement rates).

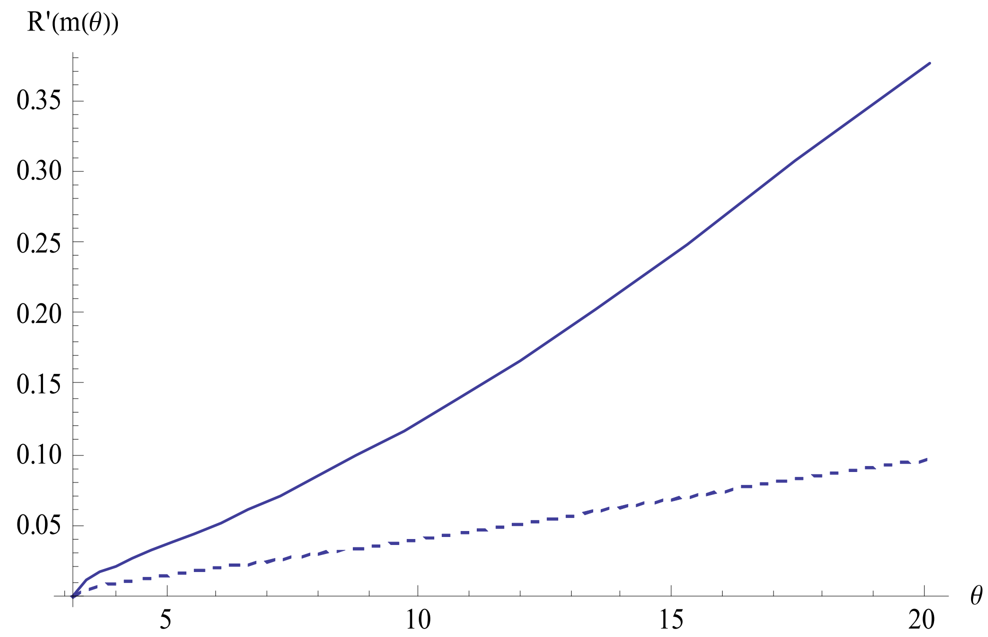

Figure 2:

Asymmetric information, redistribution and social LTC insurance

- Most widely debated instruments of public LTC policy are:
  - the subsidization of private LTC insurance,
  - the provision of social LTC insurance (with either cash or in-kind benefits).
- Are they part of optimal policy mix, particularly for redistribution.
- Alternative: leave redistribution to taxation and insurance to markets.

- Classical reference: Rochet (1991) considers a setting in which
  - individuals differ in risk and productivity (both characteristics being unobservable),
  - where the income tax is optimized,
  - and where private insurance markets are actuarially fair.
- Full social insurance is appropriate if (and only if) risk and earning ability are **negatively** correlated.
- Satisfied for various health risks and chronic diseases leading to dependency.

- But for old age dependency pattern of its incidence is very different: one can expect quite the opposite pattern to emerge.
- Dependence is known to increase with longevity, which in turn increases with income.
- Not that higher income individuals are more likely *per se* to be affected by a cognitive disease, but lower income individuals are more likely to die of other courses before they reach the relevant age group.

- Illustration of longevity effect: 2/3 of Alzheimer patients are women who have a higher life expectancy.
- The epidemiologic literature shows that this longevity effect is mitigated by the fact that more educated individuals tend to have a larger "cognitive reserve" which tends to delay the onset of the cognitive impairment and shorten its duration.
- Either way, unlike for many diseases we can no longer assume a significant negative correlation between incidence and income.

Cremer and Roeder (2013)

- Two main features
  - Some individuals may be myopic in the sense that they underestimate their dependency risk when they make their savings and insurance decisions.
  - Consider the possibility that private insurance markets may not offer actuarially fair LTC coverage (private insurance premiums may be subject to a loading factor).

Main results

- A first-best solution requires subsidization of private insurance and/or public provision of the appropriate level of LTC.
- The support for these instruments is less strong in a second-best setting, as there may be a conflict between the correction for myopia and redistribution.

Gender issues: sister will take care of granny; Barigozzi, Cremer and Roeder (2019)

- Daughters are the principal caregivers of their dependent parents.
- We study long-term care (LTC) choices by bargaining families with mixed- or same-gender siblings.
- LTC care can be provided either informally by children, or formally at home or in an institution.

- A social norm implies that daughters suffer a psychological cost when they provide less informal care than the average child.
- In addition, women have lower earning opportunities.
- Social norm + opportunity cost imply that in mixed gender families, informal care will always be provided by daughter.
- Informal care imposes a negative externality on daughters via the social norm so that too much informal care is provided.
- Policy calls for subsidies on formal home and institutional care.
- These subsidies may be gender-specific.

Uncertain altruism and exchanges within the family, Canta and Cremer (2017, 2019)

- In reality different pattern of "exchange" coexist; more or less altruistic or strategic etc.
- "Happy families are all alike; every unhappy family is unhappy in its own way" (Tolstoy, Anna Karenina).
- Two examples, with and without transfers to children. Distinction may depend on parent's wealth.

Uncertain altruism

- We study the role of private and public insurance programs in a world in which family assistance is uncertain.
- Parents face two types of uncertainty
  - Dependent or healthy.
  - If dependent, children's degree of altruism (simple case 0 or $\beta > 0$).
- Fair private insurance can cover the risk of dependence but not the risk of having non-altruistic children.
- Social insurance if properly designed can cover part of this risk.

Uncertain altruism and strategic bequests

- Now parents can buy extra attention via gifts or (promise) of bequest.
- Parents do not observe degree of altruism (cost of providing care).
- Use non-linear “bequest rule” to provide proper incentives.
- Social welfare accounts for utility of caregivers.
- Informal care is observable only to parents.
- Two policies: simple uniform and more sophisticated non-linear (introducing means-testing).

- Uniform policy can provide insurance against risk of dependency.
- Non-linear policy can also provide insurance against the risk of having children with low degree of altruism.
- Surprising property: in either case, informal care increases with children's weight of children in social welfare.
- Intuition: they get "paid" for it—and with asymmetric information low cost children get over-paid (to provide incentives).

Conclusions and policy recommendations

- Something has to be done!
- Otherwise many elderly will be left without proper care and/or our children will pay the bill.
- Societal problem: shifting all the burden to families is unfair and inefficient.
- There is a role for social insurance or provision of LTC.
- Can do better than private insurance (even fair) as long as it is well designed.

- Policy can be implemented in two ways:
  - Include LTC along with health in national insurance.
  - Mandatory private insurance, regulated and subsidized for lower income households.
  - Transfers based on income, wealth, bequests, gifts, etc.
- Encourage potential caregivers to buy insurance on behalf of their parents.
- Takes time to be effective, especially for private insurance.
- When system is established, some generations may pay twice for dependency risk, except if current dependency if financed by debt.

Short term policies

- Enhance the use of "reverse mortgages".
- Provision or subsidization of formal care at home (supplementing informal care if any) to delay the move to an institution.
- Labor market policies similar to parental leave: provide more flexibility to caregivers.
- Quality of nursing homes is often very poor:
  - Low budget.
  - But also issue of regulation; similar to hospitals.