The Political Economy of Government Issued Longevity Bonds

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Overview: Why did we write this paper?

- The provision of longevity insurance is a central function of governments
- Annuities are welfare enhancing
- Private markets not well developed
- Adverse selection is a market failure that is well understood
- Inability to insure aggregate mortality risk is second, less understood, market failure
  - How important is it?
  - What can the government do about it?
Overview: It is all about Trade-Offs

 Governement issued longevity bonds may help to complete markets and enhance intergenerational risk sharing

 Government has one key risk spreading advantage over private markets

 But no guarantee that efficient allocation of risk will be achieved through political system

 Politicians may have incentive to shift more risk than is optimal to future generations

 Government may not efficiently share risk within each generation
Overview: Other Issues Raised in Paper

- New estimates of how large the price effect might be
- Discussion of effect on government borrowing costs
- Discussion of political aspects of how bond proceeds might be used
Outline

- Why do we care about annuities?
  - Information problems and annuity supply
    - Adverse selection
    - Aggregate mortality risk
- Pros of government issuance
  - Intergenerational risk sharing
- Cons of government issuance
  - Across generations
  - Within generations
- Other political economy considerations
- Conclusions
Why do we care about annuities?

They enhance individual welfare

With complete markets, individuals without bequest motives should annuitize all wealth if the return to survivors exceeds that of the unannuitized version of the same asset.

Even with incomplete markets and a severe mismatch between desired consumption and available annuity stream, the optimal fraction of annuitized wealth is quite high.
Why do we care about annuities?

- There are “social” gains from annuitization
  - Absent annuitization, individuals have an incentive spend their financial wealth too quickly, knowing that they can fall back on means-tested government benefits
  - Such behavior is individually optimal, but socially costly
Information Problems - 1

Adverse selection

Money’s worth ratios → adverse selection reduces payouts by approx. 10%

Solution?

Mandatory annuitization

Note: gov’t need not be annuity provider

This solution does have other consequences
Information Problems - 2

Aggregate Mortality Risk

- Idiosyncratic mortality risk can be diversified away by holding diversified mortality portfolio
- Aggregate mortality risk is correlated across individuals and cannot be diversified away simply by insuring more individuals
How might insurers react to aggregate risk?

- Hedge with other insurance contracts
  - Ex: life insurance (but imperfect)
- Diversify internationally (reinsurance)
  - Will still be a non-diversifiable component
- Securitize the risk (without government)
  - But the risk is correlated for buyers too
- Pass to consumers via participating annuities
  - Will have to compensate them for bearing risk
- Charge a risk premium
  - Seems to be basis for encouraging longevity bonds
Is it quantitatively important?

- Friedberg & Webb
- Blake, Cairns, Dowd

We use CBO stochastic mortality projections based on AR(1) of historical mortality rate changes by age

- 5% chance that *ex post* annuity costs could increase 5 - 10%

- Money’s Worth ratios suggest that, if insurers are pricing it properly, the upper bound is 5%
  - “Sizable, but not huge”
Pros of Government Issuance

Bohn: “future generations are naturally excluded from insurance markets”

“Welfare improvements are made possible because the government’s power of taxation gives it the unique ability to make commitments on behalf of future generations.”
Intergenerational risk sharing

If different generations are differentially exposed to risk, fiscal policy can spread the risk across generations.

While shock to mortality today may also affect future generations (indeed, maybe more so), those future generations have more time to adapt behavior.

Today’s 80 year old cannot adjust labor supply or savings behavior, while those not yet born can.
A caveat ...

Government can improve social welfare by making (intergenerational) markets more complete

But, it is important to consider general equilibrium effects

Shock to longevity $\rightarrow$ alters capital-labor ratio $\rightarrow$ alters wages of future generations

Future generations may already be bearing some risk $\rightarrow$ important to account for this in designing risk sharing policies
Cons of Government Issuance - 1

- To maximize social welfare, government must shift the optimal amount, not just any amount, of risk.
- Numerous political economy motivations for politicians to redistribute to current generation.
- U.S. government big in this business:
  - Pay-as-you-go Social Security and Medicare
  - Underfunded PBGC system
  - Survivor bonds would increase exposure even more.
- Would we simply exacerbate tendency to shift excessive risk onto future generations?
Cons of Government Issuance - 2

- Optimal risk sharing also requires that we “get it right” within generations
  - Efficient financial markets ensure an equilibrium in which risk is borne by those most willing to bear it

- In practice, tax bases and rates are based on many other considerations
  - Unlikely that risk sharing will be first best
Other Issues

Cost of borrowing
- Additional bond should reduce costs
- Thin market would increase costs

Investing the proceeds
- If bond issuance exceeds need for gov’t financing, how would proceeds be invested?
- In some political economy models, budget scoring rules could lead such issuance to influence spending patterns
Conclusions

While aggregate risk raises annuity prices, we are skeptical as to overall effect of longevity bonds on demand
- Price effect may be small
- No good estimates of demand price elasticity
- Price is not the major barrier to annuitization

Welfare effects of government issuance are ambiguous
- Better intergenerational risk sharing is a theoretical possibility, but political considerations suggest they may not be realized in practice