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The Political Economy of Government Issued Longevity Bonds

Jeffrey R. Brown and Peter R. Orszag



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

- Government 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

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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

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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

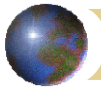
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Why do we care about annuities?

- 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

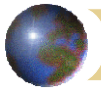
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Why do we care about annuities?

- 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

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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

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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

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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

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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"

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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."

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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 effect 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

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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 → alters capital-labor ratio → alters wages of future generations
 - Future generations may already be bearing some risk → important to account for this in designing risk sharing policies

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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?

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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

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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

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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

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