LEAVING BIG MONEY ON THE TABLE: ARBITRAGE OPPORTUNITIES IN DELAYING SOCIAL SECURITY

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The Social Security Puzzle

• Previous research: deferring Social Security is actuarially advantageous for almost everyone

• And yet, most choose to claim Social Security early

• Why?
  • Mistake
  • Health
  • Time preferences
  • Bequest motives
  • Liquidity constraints
## Choosing in Parallel

<table>
<thead>
<tr>
<th>Age</th>
<th>Observations</th>
<th>Fraction Receiving Social Security</th>
<th>Fraction Receiving Pension</th>
<th>Fraction Receiving Annuity</th>
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Notes: Includes all person-year observations for married men who have never had a disability episode. Receipt of Social Security indicates positive Social Security retirement income. Receipt of pension indicates positive employer-sponsored pension income. Respondent level weights used. Source: Health and Retirement Study (HRS)
Leaving Big Money on the Table

• We show that many of these individuals are making a **MISTAKE!** They are choosing a **dominated** strategy

• The alternative strategy: implicitly sell a pension to defer Social Security

• We generalize the argument for couples and singles, workers with DB and DC plans
Illustrative Example

- Case: single male, age 66, annual S.S. benefit = $12,500
- Objective: additional retirement real annual income of $1,000

Alternative A: 1. Buy a CPI-indexed annual annuity of $1,000
   Annuity quote = $22,290
   2. Commence Social Security at 66
   Total Cost: $22,290

Alternative B: 1. Don’t buy a retail annuity
   2. Defer Social Security by one year
   Total Cost: $12,500+$1,000 = $13,500

Choosing alternative B = save $8,790
Illustrative Example (Cont.)

**Alternative A**
Buy a CPI-indexed annual annuity of $1,000

Cost: $22,290

Total annual income after year 1:
$12,500 (SS)+$1,000 annuity=$13,500

**Alternative B**
Defer Social Security by one year

Cost: $12,500 + $1,000 = $13,500

Total annual income after year 1:
$12,500 (SS)+$1,000 (SS)= $13,500

Income after deferral period is the same for all periods
## Cost of Alternative A: Buying a Private Annuity of an annual $1,000

## Cost of Alternative B: Defer Social Security by one year = $13,500 for all

<table>
<thead>
<tr>
<th></th>
<th>Single</th>
<th>100% joint and survivor</th>
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<td>Real retail annuity</td>
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Notes: All annuity prices refer to Pacific Life quotes retrieved on August 23, 2016
Illustrative Example 2: Maximum Deferral

- Case: Primary earner, age 62, annual S.S. benefit = $24,000
- Objective: additional retirement real annual income of $18,240

- Alternative A: 1. Buy a CPI-indexed annual annuity of $18,240
   Annuity quote = $586,325
   2. Commence Social Security at 62
   Total Cost: $586,325

- Alternative B: 1. Don’t buy a retail annuity
   2. Defer Social Security to age 70
   Total Cost: 42,240*8 = $337,920

Choosing alternative B = save $248,405
Generalizing the Argument

- Consider all ages for single men and primary earners in a couple

- Assume zero inflation; positive inflation would make deferral strategy even more valuable

- Discount nominal (real) cash-flows beyond the first year with CD (TIPS) rates
Generalizing the Argument (Cont.)

• Compare gains moving from alternative A to alternative B

**Alternative A**
- Buy a CPI-indexed retail annuity
- OR
- Buy a nominal retail annuity
- OR
- Take a DB annuity
- AND: Commencing Social Security immediately

**Alternative B**
- Keep the money in the IRA/401k
- Take the DB lump-sum offer
- AND: Delay Social Security by d months (d=[1,96])

\[ B > A \]
\[ B > 0.95 \ A \]
\[ B > 0.90 \ A \]
Tax Considerations

- The amount of Social Security subject to taxation varies based on “combined income”, ranging between 0-85%.

- Different tax implications:

- Net-tax gains depend primarily on how much other income a household enjoys.
Tax Considerations

- Compare gains moving from alternative A to alternative B
- Case: Single or primary earner in a couple
- Age: 62
- Other income range: 0 to $100,000

**Alternative A**
- Buy a CPI-indexed annual annuity
- AND: Commencing Social Security immediately

**Alternative B**
- Keep the money in the IRA/401k
- AND: Delay Social Security to 66
After Tax Arbitrage
Gains moving from Alternative A to B

Income Increase (% of Primary Benefit)

Joint Income 66+

Single Income 66+

Other (Non Social Security) Income

$0 $10,000 $20,000 $30,000 $40,000 $50,000 $60,000 $70,000 $80,000 $90,000 $100,000
Conclusion

- Risk free gains from strategically delaying Social Security

- Unexpected recommendation: if you can defer Social Security, do not buy a private annuity! Regardless of health, time preferences or bequest motives

- 25% of the population might be making a mistake

- Big money on the table: can increase real annual income by 18%!

- Robustness: arbitrage still holds after taxes for everyone
Why Are People Making This Mistake?

• Very complicated decision

• Wrong financial advice
  • Conflicting interest for financial advisors

• Misconceptions of Survivor and Spouse benefits
Thank you!