How Does the Personal Income Tax Affect the Progressivity of OASI Benefits?

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OASI designed to be progressive

Source: Social Security Administration, 2011.
How Progressive is OASI?

- Gustman and Steinmeier (2001)
  - 10.6% of total benefits redistributed (individual).
  - 5% when measured at the household level.

- Liebman (2002)
  - Income-related transfers only 7-9 percent of benefits.

- Brown, Coronado, and Fullerton (2009)
  - Almost none when broadest measures used.
Personal income taxes – help or hurt?

Contributions:
• Taxable Maximum
• Employer’s contributions are exempt from personal income tax

Benefits:
• Can be subject to income tax
  • Nominal thresholds: $25,000/ $32,000
Methods

• “Reproduce Gustman & Steinmeier (2001)”
  • HRS matched to Social Security earnings records
  • Calculate employee and employer taxes paid over lifetime
  • Calculate AIME and PIA
    • Assume retirement at age 62
  • Ex-ante present discounted value of taxes paid
  • Present discounted valued of benefit stream
Add taxation to contribution side

- Marital and fertility history from survey data
- Estimate uncapped earnings over lifetime
- Use TAXSIM to estimate annual marginal income tax rate over historical earnings
  - Assume standard deduction
  - Only income is earnings
  - Each spouse as the household marginal tax rate
- Employer contribution to taxes: ER(1-MTR)
- EITC offsets employee contribution
Income taxes – Taxable Maximum

Taxable Earnings as Percentage of Total Covered Earnings

Source: 2010 SSA Statistical Supplement Table 4.B1
Income taxes – effective income tax rate

Effective Marginal Tax Rates for a Family of Four, 2011.

Source: Authors’ calculations.
Add taxation to benefits side

- Project taxable income until death
  - DB and annuity streams
  - Inflation-adjusted annuity of financial assets

- Use TAXSIM to estimate annual marginal income tax rate over future income
  - Assume standard deduction
  - Each spouse as the household marginal tax rate
  - Use current income tax legislation

- Benefit = b(1-τ)
Exclusion limits on benefits are not indexed

Revenue from Income Taxation of Social Security Benefits, in Billions of 2010 Dollars

Judgment Calls

- What income to include?
  - Below taxable maximum
  - All earned income
  - Potential income

- How to measure progressivity?
  - Net dollar transfer
  - Net tax rate
  - Redistribution by decile
  - Effective progression
Gini Coefficient

Lorenz curve
45 degree line
Findings – Individual Level

![Graph showing findings at individual level with baseline and taxation compared. The x-axis represents different levels, and the y-axis shows percentage change. The graph indicates a decline in performance with taxation.]
Findings – Household Level

![Chart showing findings at household level with baseline and taxation contrasts. The chart illustrates comparative percentages across different categories, with baseline results represented by red bars and taxation results by grey bars.](chart_image)
Findings- Effective Progression

Baseline Case
- Individual: 1.0073
- Household: 1.0037

With Taxation
- Individual: 1.0080
- Household: 1.0042
Findings

- Social Security is progressive, although not nearly as progressive as first glance.
- Adding taxes to the equation makes the program more progressive.
- Household-level redistribution measures still roughly half of individual-level redistribution.
What about other cohorts?

- Cohen, Steuerle and Caruso (2001); Smith, Toder and Iams (2001)
  - More progressive over time

- Gustman, Steinmeier and Tabatabai (2011)

- What about taxes over time?
  - Fewer non-working spouses
  - Benefit bracket creep
    → Effect of taxes more important over time
Findings: War Baby Cohort

Effective Progression of Social Security: HRS vs. War Baby Cohort

- **HRS Household Level**
  - Base: 1.0037
  - With Taxation: 1.0042

- **War Baby Household**
  - Base: 1.0016
  - With Taxation: 1.0032
Extensions

• More birth cohorts
  • Through 1953

• Sensitivity Analysis
  • Interest rates
  • Imputation of earnings for those without match
  • Standard deductions
  • Income in retirement
What Are the Policy Implications?

- Taxation of benefits trumps the employer deductions.
- Taxes influence the measures of progressivity of Social Security, and their impact will grow over time under current law.