



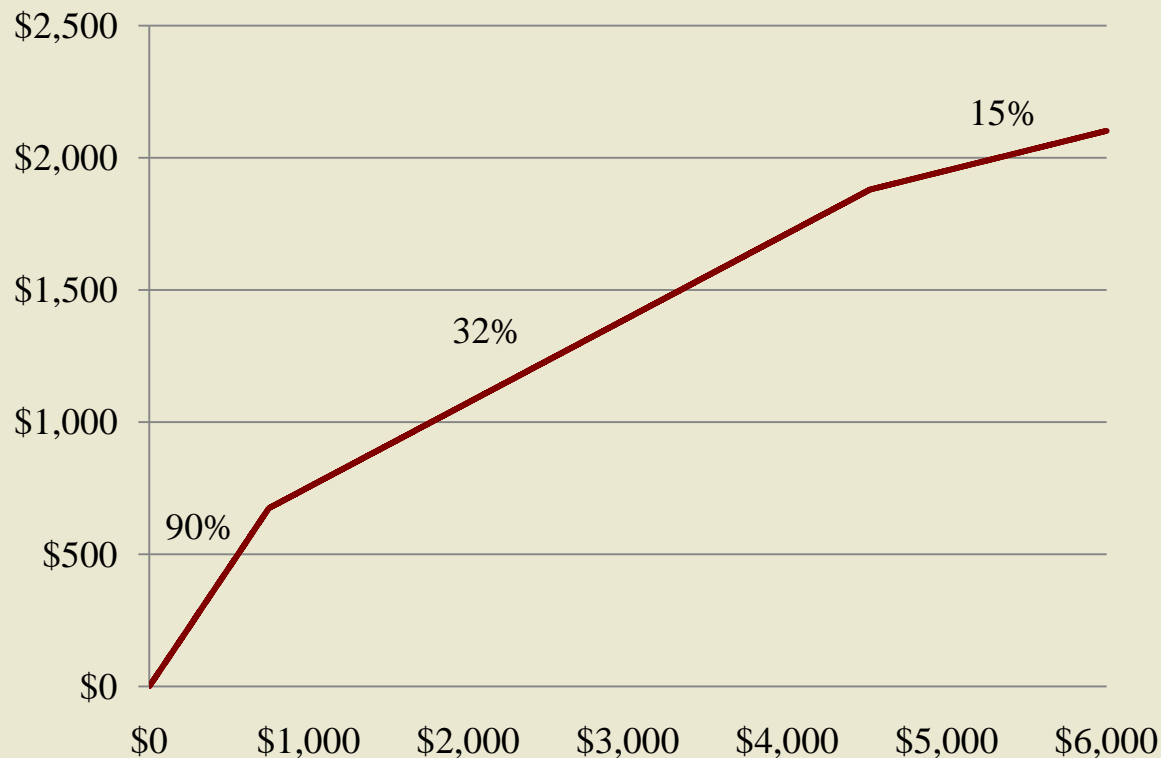
# *How Does the Personal Income Tax Affect the Progressivity of OASI Benefits?*

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# OASI designed to be progressive

Social Security Primary Insurance Amount (PIA) Calculation, 2011



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

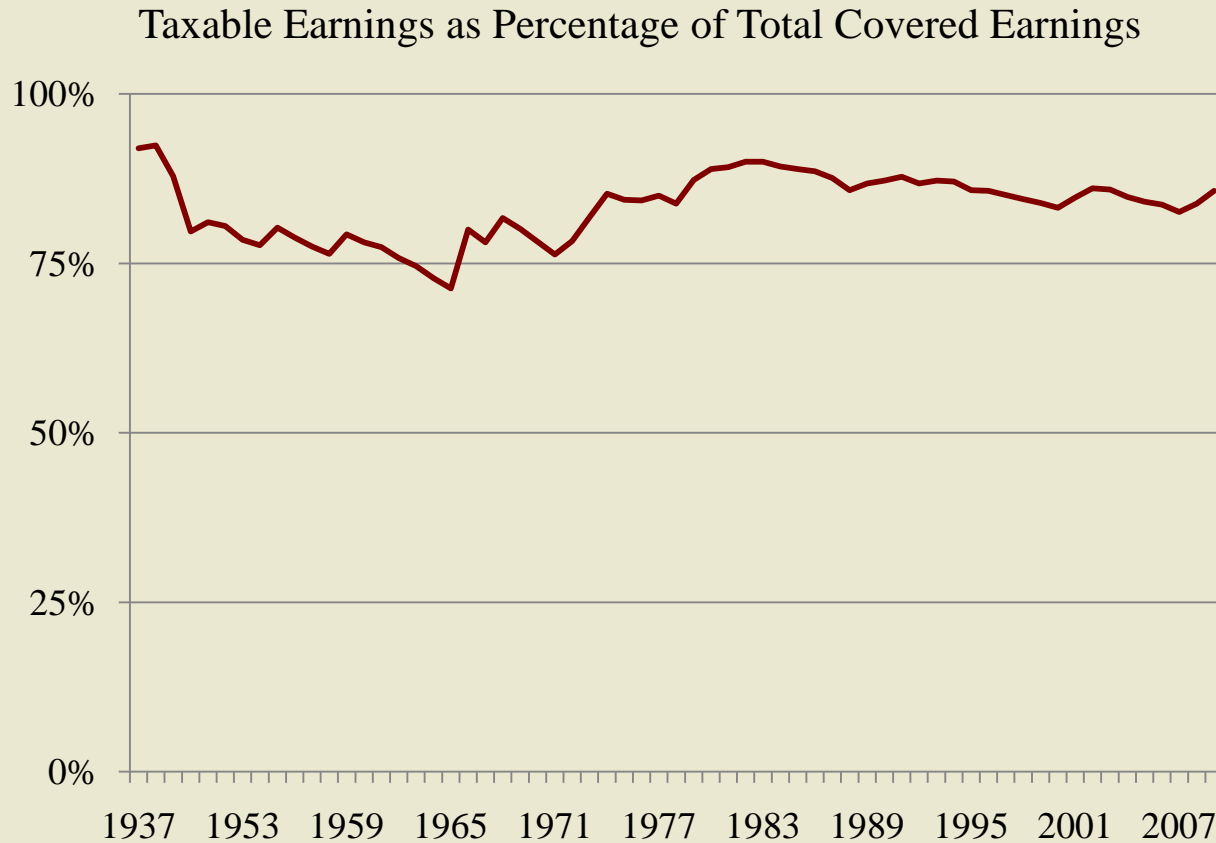
# Methods

- “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

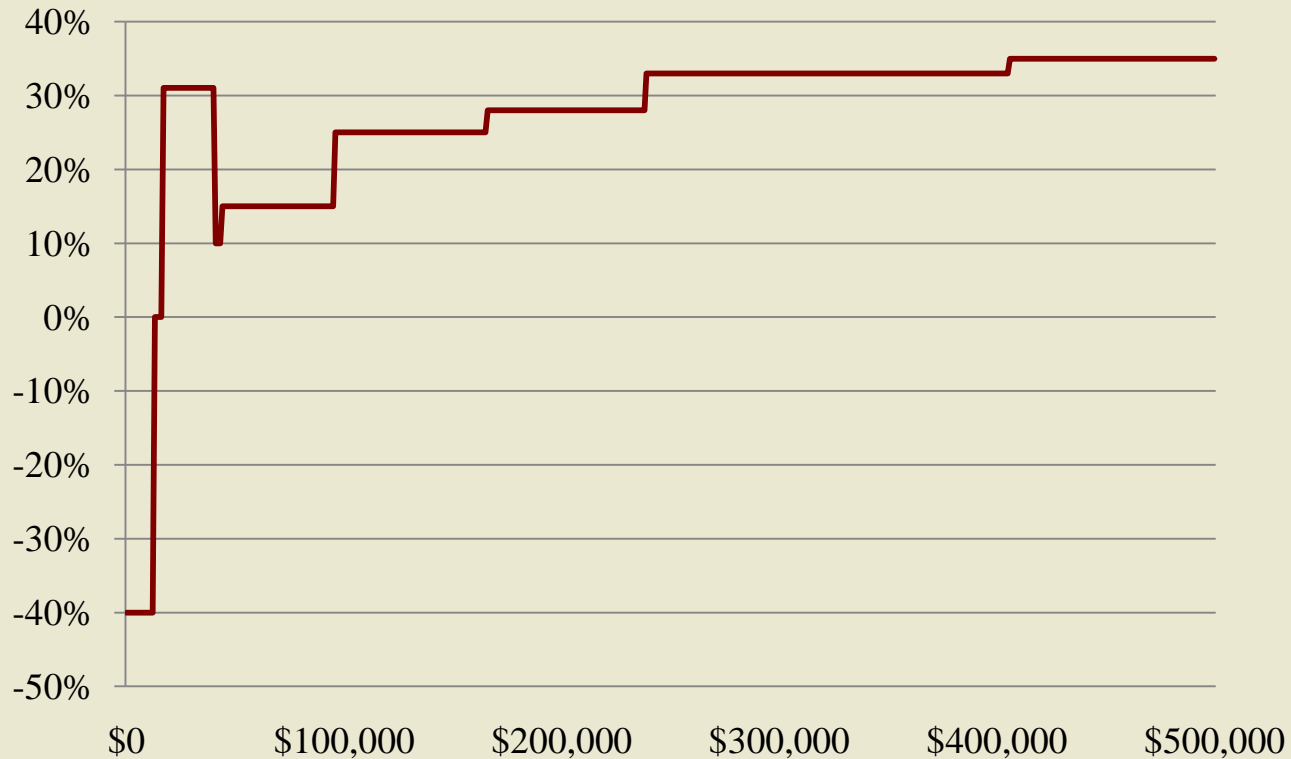
# Income taxes – Taxable Maximum



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.

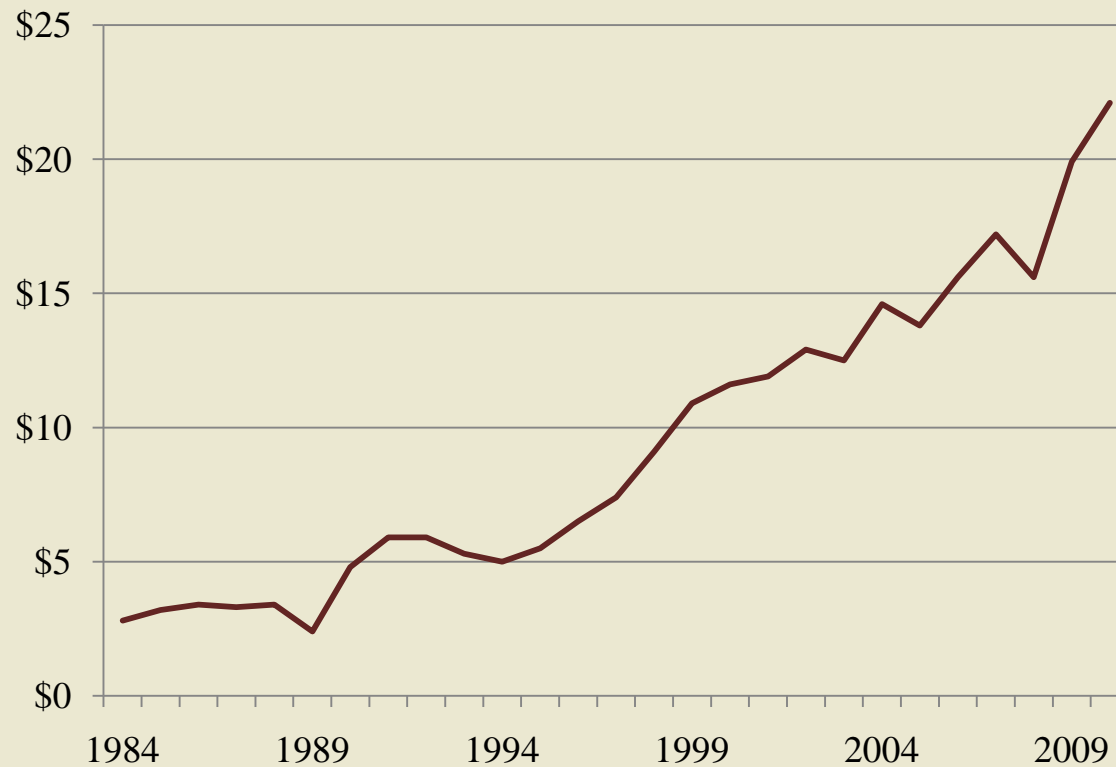


# Add taxation to benefits side

- 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 =  $b(1-\tau)$

# Exclusion limits on benefits are not indexed

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

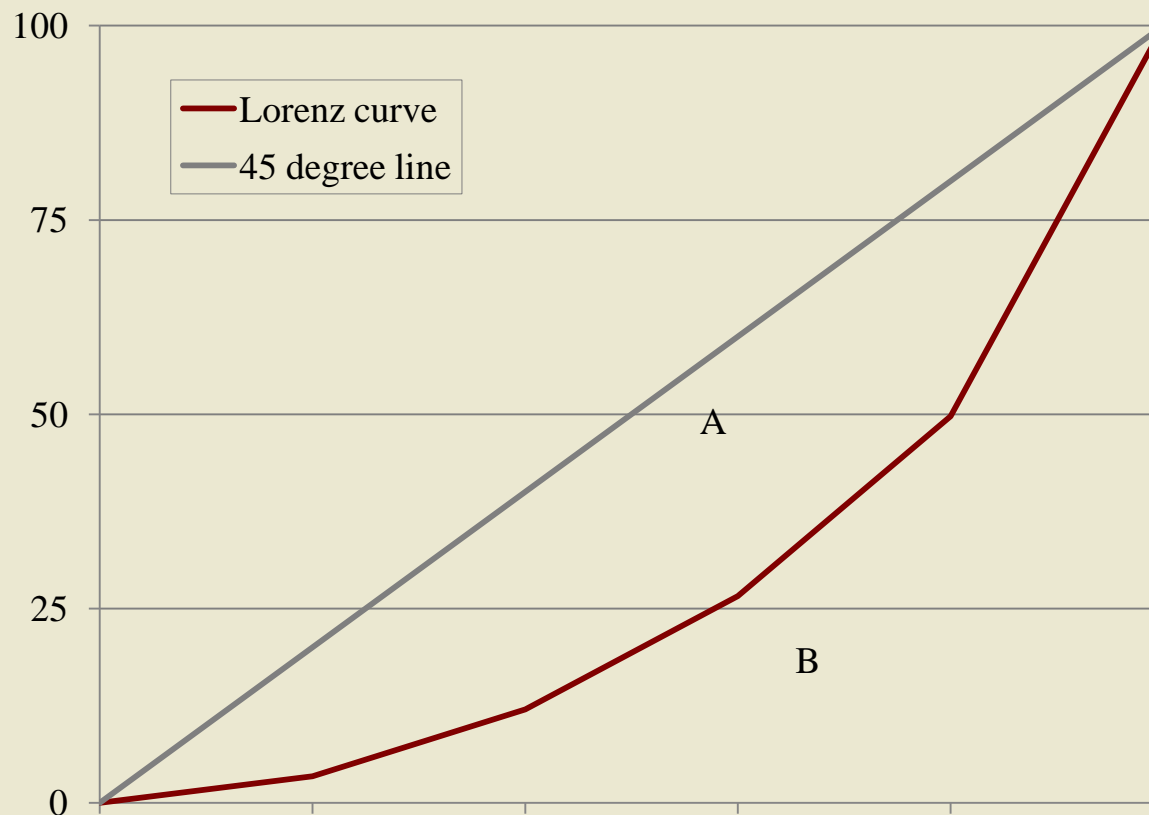


Source: 2011 Social Security Trustees Report, Table VI.B1.

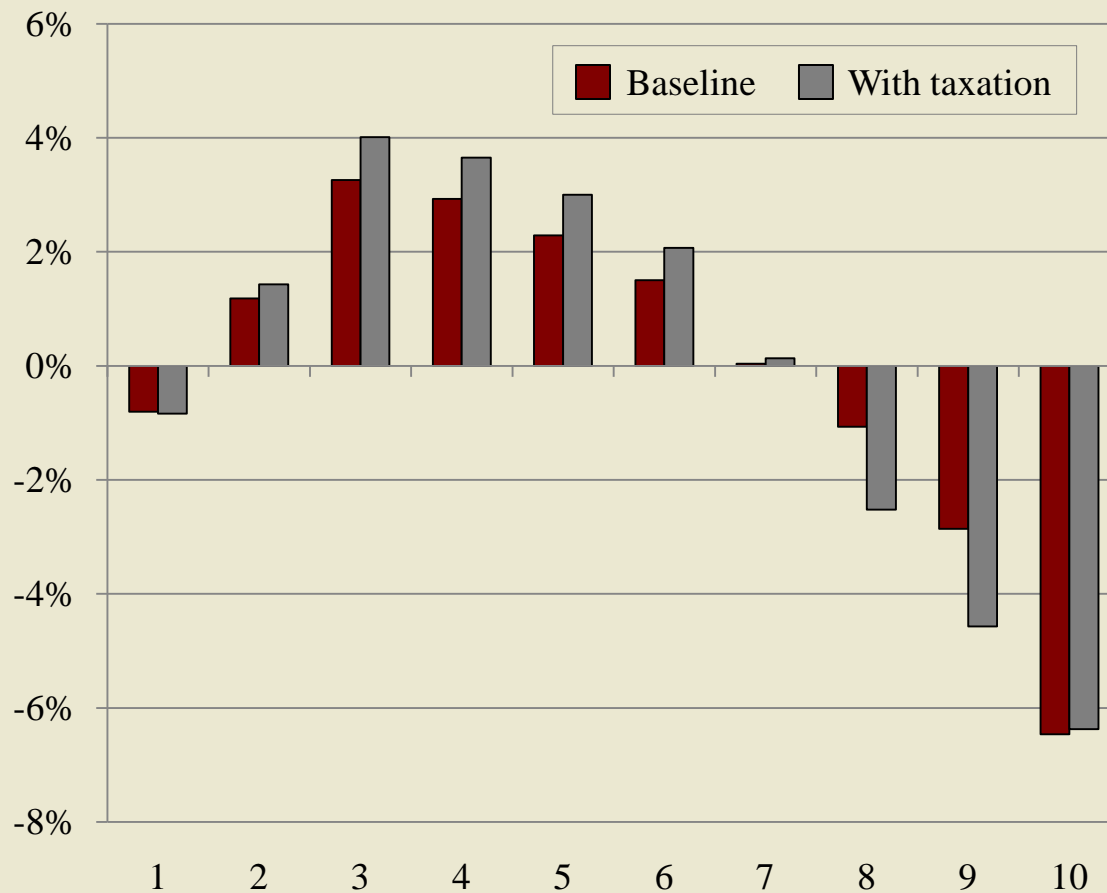
# Judgment Calls

- 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**

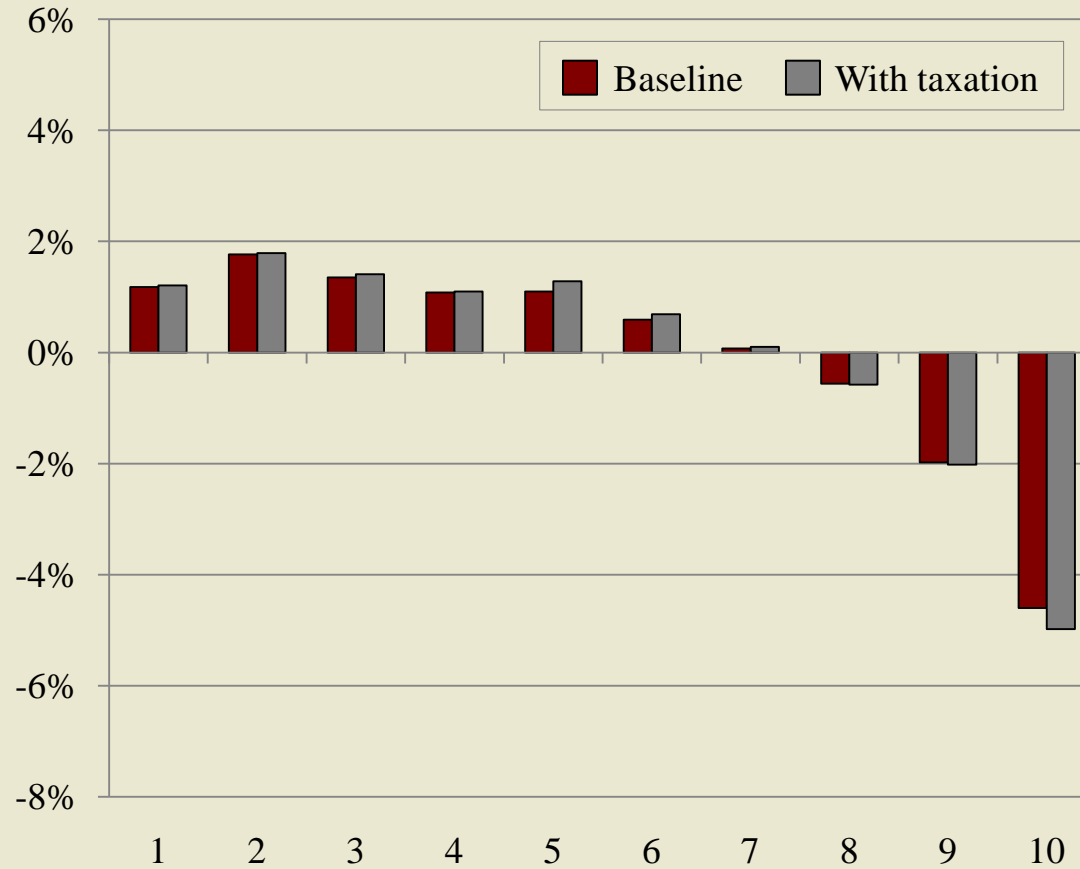
# Gini Coefficient



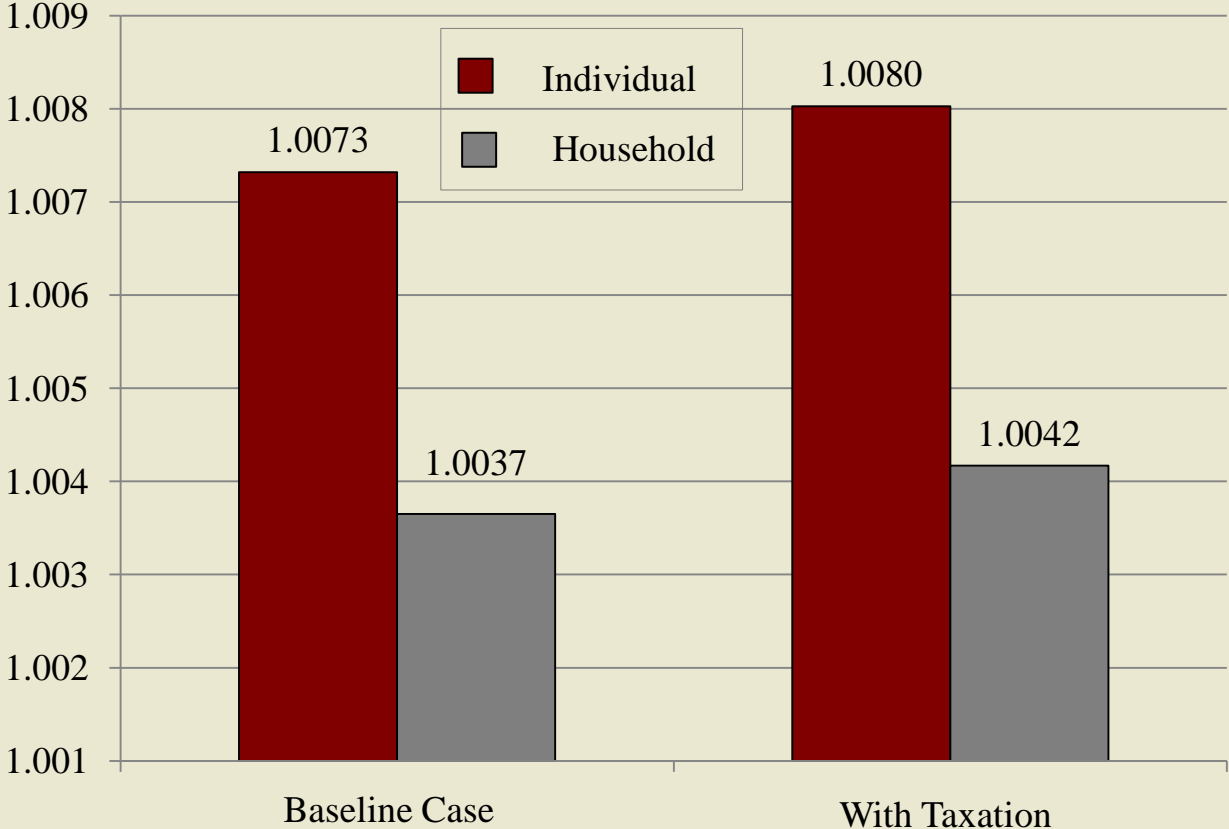
# Findings – Individual Level



# Findings – Household Level



# Findings- Effective Progression



# 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.

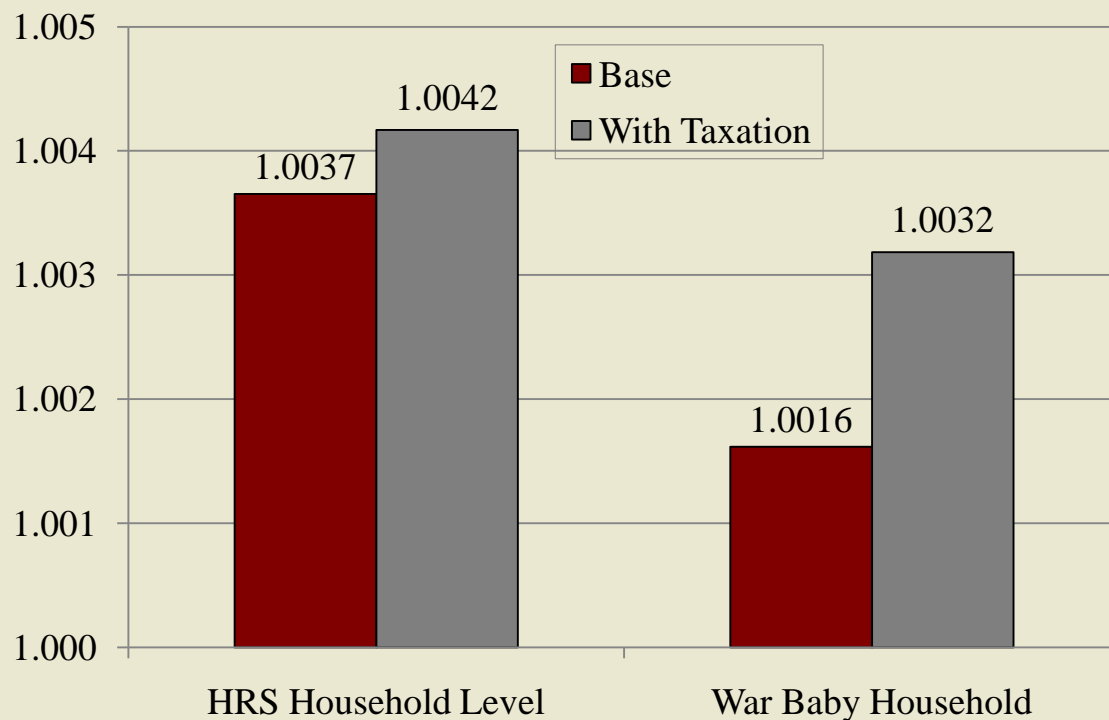


# What about other cohorts?

- 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



# 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.