Changes in the Distribution of After-Tax Wealth: Has Income Tax Policy Increased Wealth Inequality?

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The analysis and conclusions set forth are those of the authors and do not indicate concurrence by other members of the research staff or the Board of Governors of the Federal Reserve System.
Motivation

• Wealth inequality is increasing
  • Recent focus on the top of the distribution
  • Piketty (2014), Saez and Zucman (2014), Wolff (2014), Bricker et al (2014), and Bricker et al (2015) and many earlier studies use pre-tax wealth

• Substantial share of US household wealth is held in tax-deferred form
  • Retirement accounts and unrealized capital gains = 38% of wealth in 2013
  • Represents an implicit tax liability for households
  • Some wealth not available for consumption
Motivation

- Effects of income tax policy on the wealth distribution
  - May increase or decrease wealth inequality
  - Effects of changes in income tax policy over time

- After-tax wealth as a better measure of financial well-being
  - Similar to studies that build a more complete measure of income
Data

• Survey of Consumer Finances (SCF)
  • Survey of households sponsored by the Federal Reserve Board
  • In cooperation with Department of Treasury

• SCF triennial cross-sectional surveys, 1989-2013
  • Sample sizes = 4,000 to 6,500 households

• Dual frame sample design
  • Area probability – typical households
  • List – oversample wealthy households

• Details on the SCF – Bricker et al. (2014)
Measuring wealth in the SCF

• Assets
  • Financial assets
    • Transaction accounts
    • CDs
    • Stocks and bonds
    • Mutual funds
    • Retirement accounts
    • Trusts and annuities
  • Nonfinancial assets
    • Vehicles
    • Houses / other property
    • Businesses (privately-held)

• Liabilities
  • Mortgages
  • Installment loans
    • Car loans
    • Student loans
    • Other loans
  • Credit card balances
  • Lines of credit
Mean and median pre-tax wealth

[Graph showing the mean and median pre-tax net worth from 1989 to 2013, with values ranging from $150 to $650 thousand of 2013 dollars.]
Mean pre-tax wealth
by pre-tax wealth percentile

Thousands of 2013 dollars

0 50 100 150 200 250


Year

0-89.9
Mean pre-tax wealth
by pre-tax wealth percentile

![Graph showing mean pre-tax wealth by pre-tax wealth percentile over years. The x-axis represents years from 1989 to 2013, and the y-axis represents thousands of 2013 dollars. Two lines, one red and one green, represent different wealth percentiles. The graph indicates a general increase in wealth over time.]
Pre-tax wealth shares
by pre-tax wealth percentiles
Tax-deferred assets

• Tax-deferred retirement accounts
  • Plans through current and past employers
    • 401(k)s, 403(b)s, other defined-contribution pension plans
  • Plans started by an individual
    • Individual Retirement Accounts (IRA), Keogh (like an IRA)

• Unrealized capital gains
  • Real estate
  • Privately-held businesses
  • Stock and stock mutual funds
    • Not including the primary residence

• Ownership of tax-deferred assets
  • 56% in 2013, peaked at 63% in 2001
Ownership of tax-deferred assets
by pre-tax wealth percentiles

![Graph showing the ownership of tax-deferred assets by pre-tax wealth percentiles from 1989 to 2013. The graph illustrates the percentage of wealth in each wealth percentile over time.]
Share of wealth in tax-deferred retirement by pre-tax wealth percentiles
Ownership of defined-benefit and defined contribution plans

![Diagram showing trends in defined-benefit and defined-contribution plans ownership from 1989 to 2013.](image-url)
Share of wealth in unrealized capital gains
by pre-tax wealth percentiles
Estimating tax liabilities

• NBER TAXSIM – calculates tax liabilities under federal & state tax laws
  • Generate necessary input variables from the SCF data
  • Base tax liability = household’s tax liability based on prior year income, exemptions and deductions
  • Tax-deferred tax liability = add tax-deferred retirement assets to wage income, add unrealized capital gains to long-term capital gains income
  • Implicit tax liability = tax-deferred – base
• After-tax wealth = pre-tax wealth minus implicit tax liability
Tax rate changes, 1988-2012
Implicit tax liability as a share of wealth
by pre-tax wealth percentiles

![Graph showing implicit tax liability as a share of wealth by pre-tax wealth percentiles from 1989 to 2013. The graph uses lines to represent different percentiles: 0-89.9, 90-98.9, and 99-100. Each year from 1989 to 2013 is plotted, with the percent liability on the y-axis ranging from 0 to 16. The lines show fluctuations over time.]
Effective tax rate on tax-deferred assets
by pre-tax wealth percentiles

[Graph showing effective tax rates over time for different wealth percentiles.]
Mean and median after-tax wealth

[Graph showing the trend of mean and median after-tax wealth from 1989 to 2013 in thousands of 2013 dollars.]
Wealth shares
by pre-tax wealth percentiles
Difference in wealth shares (after-tax – pre-tax) by pre-tax wealth percentiles

![Difference in wealth shares graph](image-url)

- Percentage Points: -2, -1.5, -1, -0.5, 0, 0.5, 1, 1.5, 2
- Wealth Percentiles: 0-89.9, 90-98.9, 99-100
The top 1 percent

• Stand out in all parts of the analysis
• Many recent studies focus on groups within the top 1 percent
• Split top 1 percent into two subgroups
  • Top 0.1 and remaining 0.9 percent
• Heterogeneity within the top 1 percent
  • Mean wealth in 2013 for top 0.1 = $75 million
  • Mean wealth in 2013 for rest of top 1 = $13 million
  • Top 0.1 mean unrealized capital gains = 7 times the rest of the top 1
  • Mean tax-deferred retirement assets about the same
Share of wealth in tax-deferred assets
Top 1 percent

[Graph showing the share of wealth in tax-deferred assets for the top 1 percent from 1989 to 2013, with different categories for different wealth brackets.]
Effective tax rate on tax-deferred assets
Top 1 percent
Difference in wealth shares (after-tax – pre-tax)
Top 1 percent

![Graph showing the difference in wealth shares for the top 1 percent from 1989 to 2013. The x-axis represents the years, and the y-axis represents the percentage points. The graph shows a decrease in difference from around -0.8 in 1989 to close to 0 in 2013. There are two categories: 99-99.89 and 99.9-100, indicated by blue and orange bars, respectively. The graph is sourced from the Survey of Consumer Finances.](image-url)
Alternative tax policy

• Why the differential in wage vs. capital gains rates?
  • “Lock-in” effect of high capital gains tax rates
  • Spur economic growth with lower tax rates

• Unrealized capital gains taxed at wage income rates
  • Treated the same as tax-deferred retirement accounts
  • Estimate alternative tax liability
  • Implicit tax liability = alternative – base

• After-tax wealth = pre-tax wealth minus implicit tax liability
Effective tax rates on tax-deferred assets

Alternative tax policy

![Graph showing effective tax rates on tax-deferred assets over time.](Image)
Wealth shares
Alternative tax policy
Difference in wealth shares (after-tax – pre-tax)
Alternative tax policy

![Graph showing the difference in wealth shares for alternative tax policy from 1989 to 2013. The graph displays percentage points for different tax brackets (0-89.9, 90-98.9, and 99-100) across various years.]
Conclusions

• We provide new estimates of the after-tax distribution of wealth
• Distribution of after-tax wealth is less concentrated than pre-tax wealth early in our sample
  • Effectiveness of income tax policy in reducing inequality has declined
  • Combination of substantial decline in capital gains tax rates and large share of unrealized gains in wealth at the top of the wealth distribution
  • Effect is magnified within the top 1 percent
    • Top 0.1 experienced largest declines in effective tax rates on tax-deferred assets
• Our alternative tax policy does reduce wealth concentration
  • Wealth inequality still increases between 1989 and 2013
• Adverse effect of income tax policies on wealth inequality
Thank you

Questions?
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