Module 1

U.S. Retirement:

Public and Private Environment

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Preview
U.S. Retirement:
Public & Private Environment

1. Overview of U.S. retirement system
   - Sources
   - Major changes
2. Employer-based pensions
   - Defined Benefit Plans (Private Employers)
   - PBGC
   - Defined Contribution & contrast with DB
   - Hybrid plans
   - State & local pension issues

Preview
U.S. Retirement:
Public & Private Environment

3. Social Security
   - Details
   - Solvency and future challenges
4. Prospects for future retirees
   - Is there a looming crisis?
   - Why do reasonable people disagree?

U.S. Retirement: Public & Private Environment

- U.S. retirement income: 3-legged stool of
  - Private savings
  - Social Security
  - Employer/union pensions
- 2015
  - Adequacy of all 3 legs questioned
  - Demographic changes
  - Increased life expectancy

Which stool?

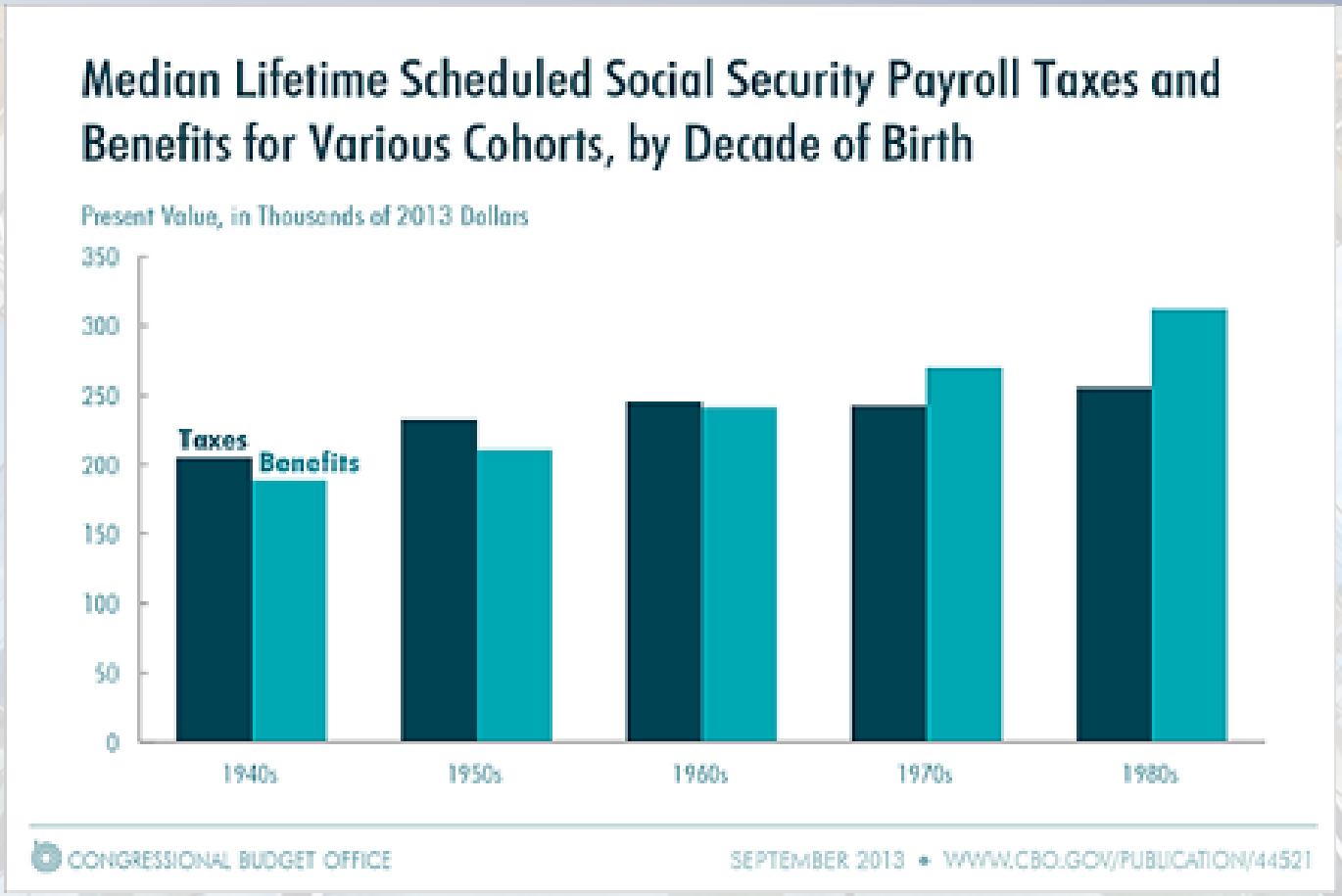
Private Savings in U.S.

- 2011 median net worth, 54-65 year olds: $144,000
  - $45,000 excluding home equity
- 1993 (inflation adjusted) $143,000
  - $39,000 excluding home equity
- Private savings alone inadequate to support retirement

Social Security

- Private savings supplemented by Social Security payments
- April 2015, 56 million beneficiaries
- Average monthly benefit $1,264
- 25% have no other source of income
- 65% Social Security more than 50% of income

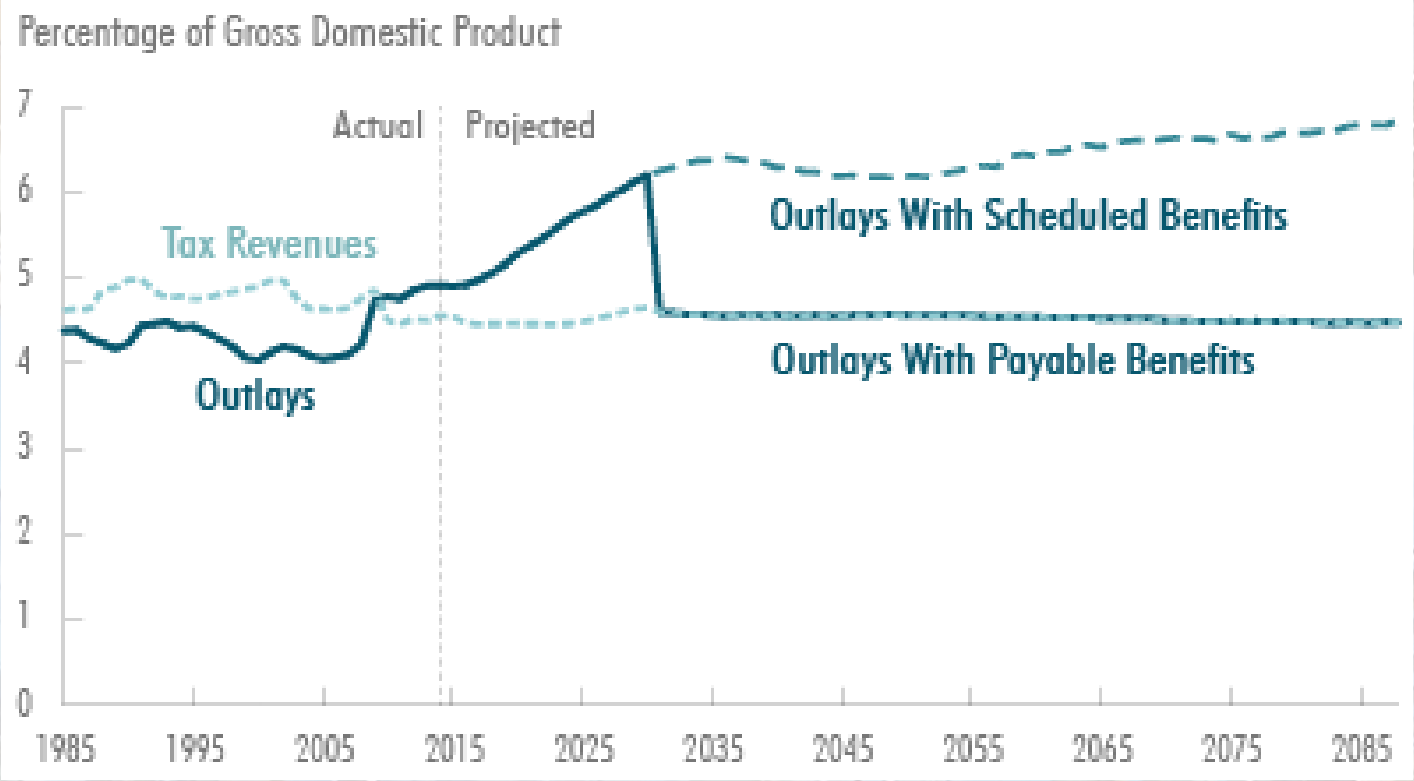
Social Security Benefits Have Grown over Time



Social Security Solvency

- Questions about solvency cause uncertainty over future benefit levels
- Current taxes collected are less than benefits paid per year
- SS “Trust Fund” is shrinking

Social Security Tax Revenues and Outlays, With Scheduled and Payable Benefits



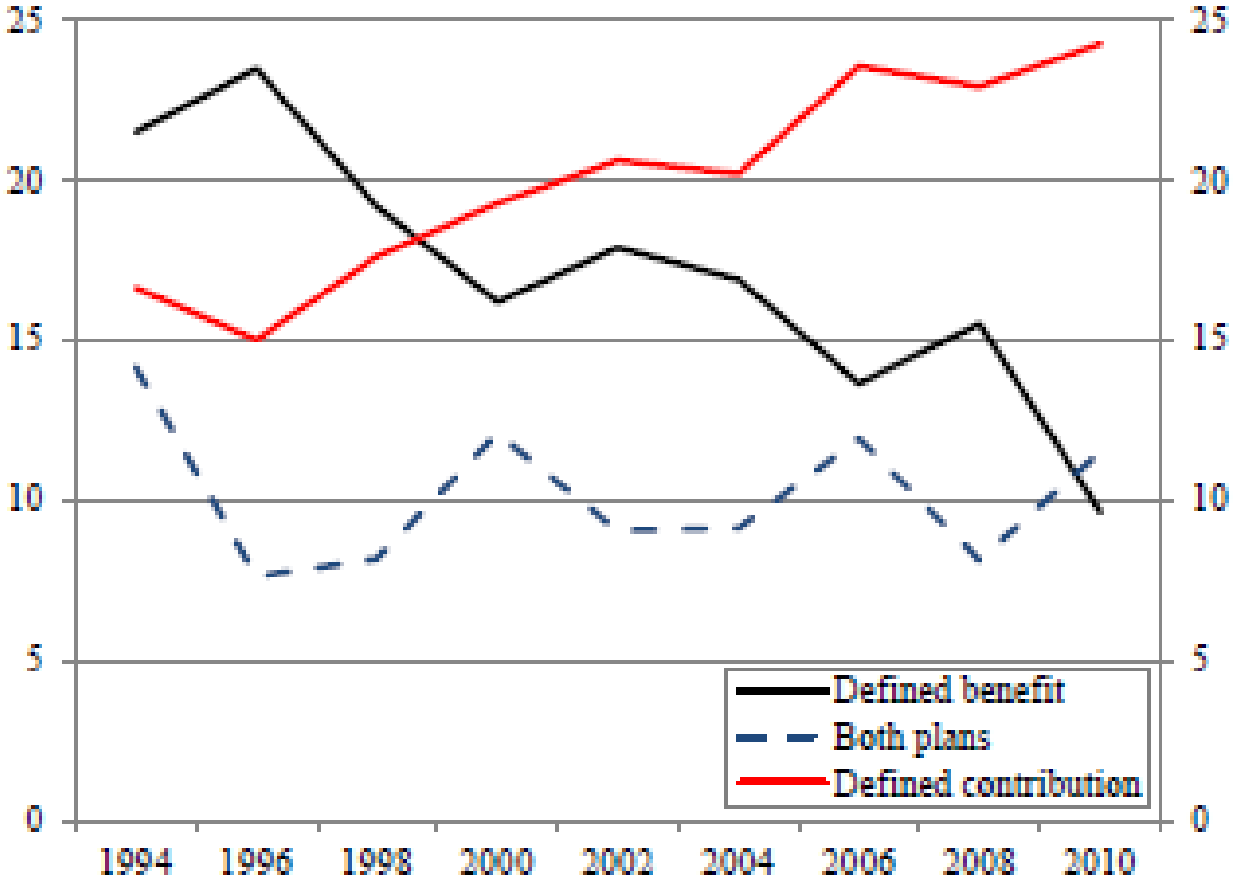
Employer-Provided Pensions

- Downward trend in DB pension plans
- Increase in DC pension plans
- Complex patterns across cohorts in income from pensions
- DB-DC transition affects other savings decisions

Each cohort faces different pension types

- Current retirees, born 1936-1945
  - 49% have DB pension income ($7000)
  - 58% have DC/retirement accounts ($4000)
- Future retirees, born 1966-1975
  - 25% have DB pension income ($2000)
  - 80% have DC/retirement account income ($12000)

Figure 5. *Workers with Pension Coverage by Pension Type, HRS, 1994-2010*



Source: Computed by the authors from the *Health and Retirement Study*.

Major Changes in Retirement Landscape in Past Half Century

- Switch from DB to DC pensions
- Increased life expectancy
- Demographic bulge from baby boom

  - Last 2 lead to decreased financial health for Social Security and other pensions
  - DB to DC reallocates risk, cost, and more

Changing Life Expectancy

- Longer lives (but not longer working lives) mean pensions must cover more years
- Life expectancy at age 65:
  - 1960: 14.3 years
  - 2000: 17.6 years
  - 2010: 19.1 years

Demographics of Baby Boom

- Social Security is “pay-as-you-go” system
- Current workers pay for current retirees
- With growing population, workers grow faster than retirees unless:
  - Increase in life expectancy
  - Unusually large birth cohort

Types of pensions

- Employer provided
  - Public employers
  - Private employers
  - Multi-employer plans
- Defined Benefit (DB) Pensions
- Defined Contribution (DC) Pensions
- Hybrid plans (combine DB & DC features)

Defined Benefit Plans (Private Employers)

- DB plan: provides a pre-established (monthly) benefit amount during retirement
  - Benefit based on years of service and/or age, final or highest salary
  - Payments from retirement date until death
  - Early, late retirement dates common

Defined Benefit Plans

- Employers and (sometimes) employees make contributions to fund DB pensions
- Deferred compensation, non-linear
  - Sharp changes in benefits can lead to strong retirement incentives/disincentives

Defined Benefit Plans

- Employers take on investment & longevity risk
- Federal law sets funding requirements for future pension promises (for private employers)
- Pension Benefit Guaranty Corporation (PBGC) provides insurance against inadequate funding

Why offer DB plans (employer)?

- Deferred compensation
  - Keeps workers with firm in early years
  - But reduces tax liability through contributions
- Benefit “cliffs” can encourage retirement after maximum years of service
- Individual workers less able to bear investment risk
- Certain benefit valuable to employees

DB and retirement incentive

- EX: Plan pays 50% of final salary after 30 years of service; 30% for 20-29 years of service
- Staying with firm from year 29 to 30 brings large increase in *total* benefit amount
- Staying with firm from year 30 to 31 results in reduced pension income over life
  - 1 less year of benefits collected, no increase in benefit amount

DB plans and vesting

- Vesting: when individual has right to receive benefits
- In DB plans, an employee who leaves the firm prior to retirement age, but is vested, can later receive benefits
- Federal law sets *maximum* years of service for vesting

How much DB funding is enough?

- Law requires DB plan to have current assets that exceed *discounted* projected value of future liabilities
  - What are current assets worth?
  - How will current asset values evolve?
  - How long will current employees work?
  - How long will current and future retirees live?

How to discount future liabilities?

- Two contrasting views

  (1): Use rate that approximates expected return on currently held assets

  (2): Discount at rate that reflects likelihood liabilities will have to be paid

Example: discount rate matters

- Suppose plan owes $25,000 to a worker who will retire in 25 years
- 3% discount rate, need $11,940 today for that liability to be fully funded
- 8% discount rate, need only $3,650 today

Pension Benefit Guaranty Corp (PBGC)

- Created by 1974 legislation (ERISA)
- Insures *private* DB plans in case of bankruptcy
  - Plan sponsors (firms) pay premium
  - Plans must meet funding requirements
  - Insures both single-employer plans & multi-employer plans (financially separate)
- Does not insure DC plans
- Does not insure state and local gov't DB plans

PBGC: Actions

- For single-employer plans:
  - Requires increased contributions if underfunded
  - Steps in to attempt to preserve plans in distressed firms
  - For failed firms, takes over payments to workers
  - Cap of $60K per year in benefits insured
- For multi-employer plans:
  - Less active role in preserving plans
  - For failed firms, works with plan to serve vested workers

PBGC: Solvency

- Recession, large firm failures lead to increased PBGC liabilities in 2008-9
  - Raised concern about PBGC solvency, especially multi-employer plans
  - Funding ratios 90% in 1990s; below 50% after 2008
  - 2011, 60% of plans more than 80% funded
- FY2012: $92 million in premiums; paid $95 million (multi-employer)
  - Congress raised premiums, but projected benefits increased also

PBGC: Solvency, Single-employer Plans

"The 2013 Projections Report shows a comparable deficit of $7.6 billion for 2023. The program is not in surplus, and the range of variability in the potential outcomes is large. However, none of our simulations project that the program will run out of money within the next ten years."

PBGC: Solvency, Multi-employer Plans

"At current premium levels, PBGC's multi-employer program is itself on course to become insolvent with a significant risk of running out of money in as little as five years."

Private vs Public DB plans

- PGBC originated following some notable large business failures
- For public plans, risk of “business” failing is minimal
- Public pension regulation focused on monitoring funding levels (versus insurance approach for privates)

Defined Contribution (DC) Plans

- DC plans began in 1980s, growing popularity
  - IRS code 401K, Revenue Act of 1974
  - Tax Reform Act of 1984
  - 401(k), 403(b), 457, stock ownership plans, profit sharing plans

Defined Contribution (DC) Plans

- Funds accumulate in account in worker's name
  - Employers (94%) and employees may make contributions
    - 85% make "matching" type contributions
  - Accounts invested and returns accrue to individual worker's account
  - Employer contributions vested within 3-6 years
  - Employee contributions vest immediately

Comparison of DB & DC

- Risk to investment value
- Portability for vested workers
- Costs (for same level of coverage)
- Differing legal/tax environments

DC Plans & Risk to Employees

- Inadequate contributions
- Related, pre-retirement withdrawals or borrowing from DC plans
- Outliving assets

Note on Annuities as Solution to Longevity Risk

- Annuity: contract that converts lump-sum wealth into stream of payments over time
- Few retirees purchase annuities
  - High fees (adverse selection)
  - Annuity feature of Social Security
  - Wealth needed for health & other shocks
  - Desire for bequests to children

DC Plans & Financial Literacy

- Rise of DC plans has heightened concerns about levels of financial literacy
  - Many do not know details of their pension plans
    - 50-60% of respondents correctly state plan type
    - 35-45% get early retirement age right
    - 30-40% respond “don’t know” to DC account balance
    - Individuals respond systematically to “perceived” pension details
  - Default options for investments very important

Hybrid Plans

- Combine features of DB and DC
- Ex: “Cash Balance” plans
  - Hypothetical individual account
  - Benefit is stated relative to final account balance
  - Some DB plans have transitioned to cash balance plans

Hybrid Plans

- Technically DB plans
  - Insured by PBGC
  - Investment risk managed by firm/plan manager
  - Required to provide option of annuity

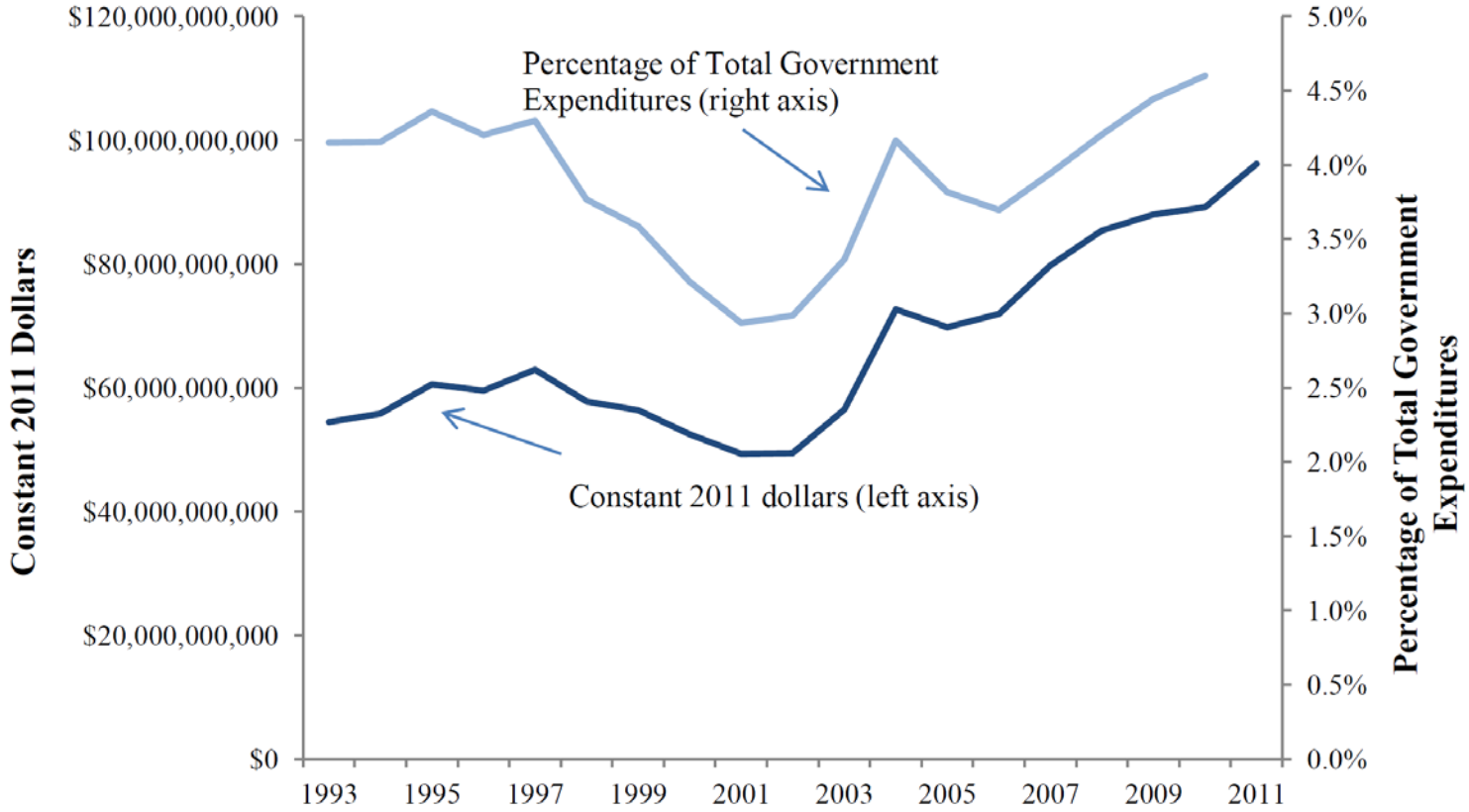
Public Sector (State & Local) Pensions

- State and local employees covered by DB pensions
- Many state plans “underfunded”
  - Promises/obligations exceed current/projected assets
  - Great Recession, boomer retirements, increased longevity
  - Recent study suggests total shortfall of $0.9 to 2.7 *trillion*

Public Sector (State & Local) Pensions

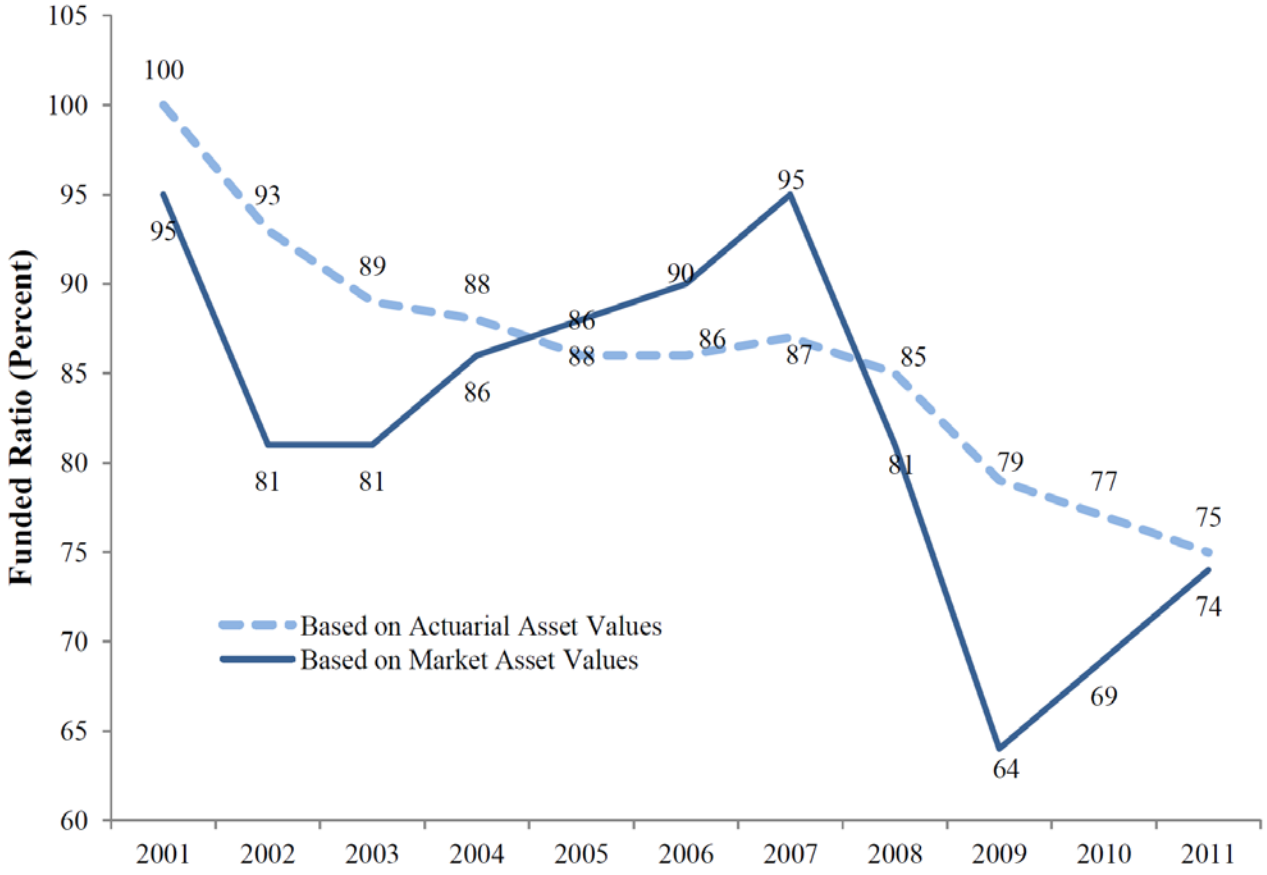
- Why underfunding?
  - Demographic and longevity pressure
  - Limited budget flexibility in local government sectors
  - Not: lack of any contributions

Figure 1: State and Local Government Contributions to Public Employee Retirement Systems, 1993-2011



Source: Authors' computations from U.S. Census Bureau (various years) and Urban-Brookings Tax Policy Center (2013).

Figure 3: Funded Ratio for State Retirement Systems, Actuarial Versus Market Asset Values, 2001-2011



Source: Wilshire Consulting (2012).

Note: Estimates are for 126 state retirement systems, and use the states' own assumptions.

Public Sector Pension Reform

- Virtually every state has made significant changes to public sector pensions
- Partially prompted by recession experience
- Examples:
  - California: only changes to benefits/contributions for new employees
  - Illinois: cuts to benefits for currently vested and current retirees, ruled unconstitutional

Public Sector Pension Reform

- Common elements
  - Longer period to calculate average salary
  - Reductions in COLAs
  - COLA only on base amount
  - Increased contributions
  - Excluding overtime from salary base
  - Increased (early) retirement age

Public-Private Partnership

- "Secure Choice" pensions (CA, IL, 5-7 other states)
  - Designed for employees of *private* employers with no current DB or DC plan
  - Allows individual retirement savings accounts, that are pooled across the state, similar to DC plans
  - Automatic (opt-out) payroll deductions
  - State plays role of employer administrator

Social Security

- Public (federal) DB pension plan
- Most U.S. workers eligible
  - Exceptions: some state and local workers and federal workers hired before 1987

SS Brief History

- SS began in 1935 (first benefits paid in 1940)
  - 1972: Automatic COLAs instituted
  - 1975: Treasury report notes that by 1979 payroll taxes would be less than required payments;
    - increased tax rate, reduced benefits
  - 1983: (2nd crisis), taxation of some benefits, scheduled increases in retirement age post-2000

SS Revenues

- Financed by payroll tax
  - 15.30% split between employer/employee
  - Maximum taxable income is $118,000
  - Trust fund: If current taxes collected exceed benefits, excess put in trust fund and invested in gov't bonds
  - Trust fund will dip to zero around 2035-2040

SS Benefits

- Benefits: real annuity, received until death & indexed to CPI
- Benefit amount: depends on
  - Age at first claiming (retirement), 62-67
  - Lifetime earnings (highest 35 years of earnings)
  - Economy-wide real wage growth (benefit index based on this) adjusts benefits over time

SS Benefits: Details

- Primary Insurance Amount (PIA): base for all future benefits
- Higher replacement rates for individuals with low lifetime earnings

PIA(2015) = [.90*AIME up to $826] +
[.32*(AIME-826) up to $4980] +
[.15*(AIME-4980) over $4980]

SS Benefits & Spouse/Survivors

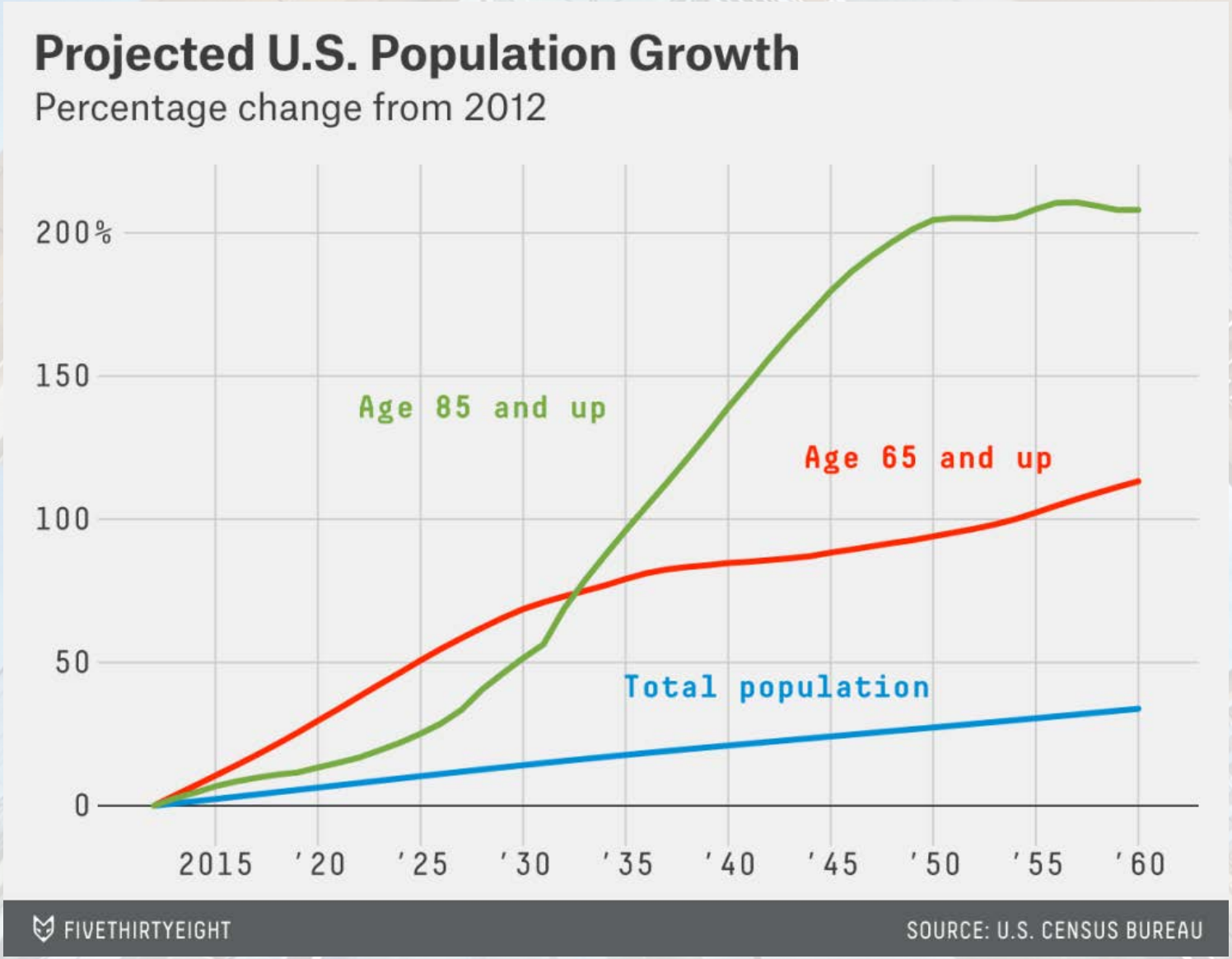
- Spouse of retiree can get 50% of eligible retiree's benefits
  - (or can claim based on own earnings history, whichever is greater)

Total Value of SS benefits varies with life expectancy

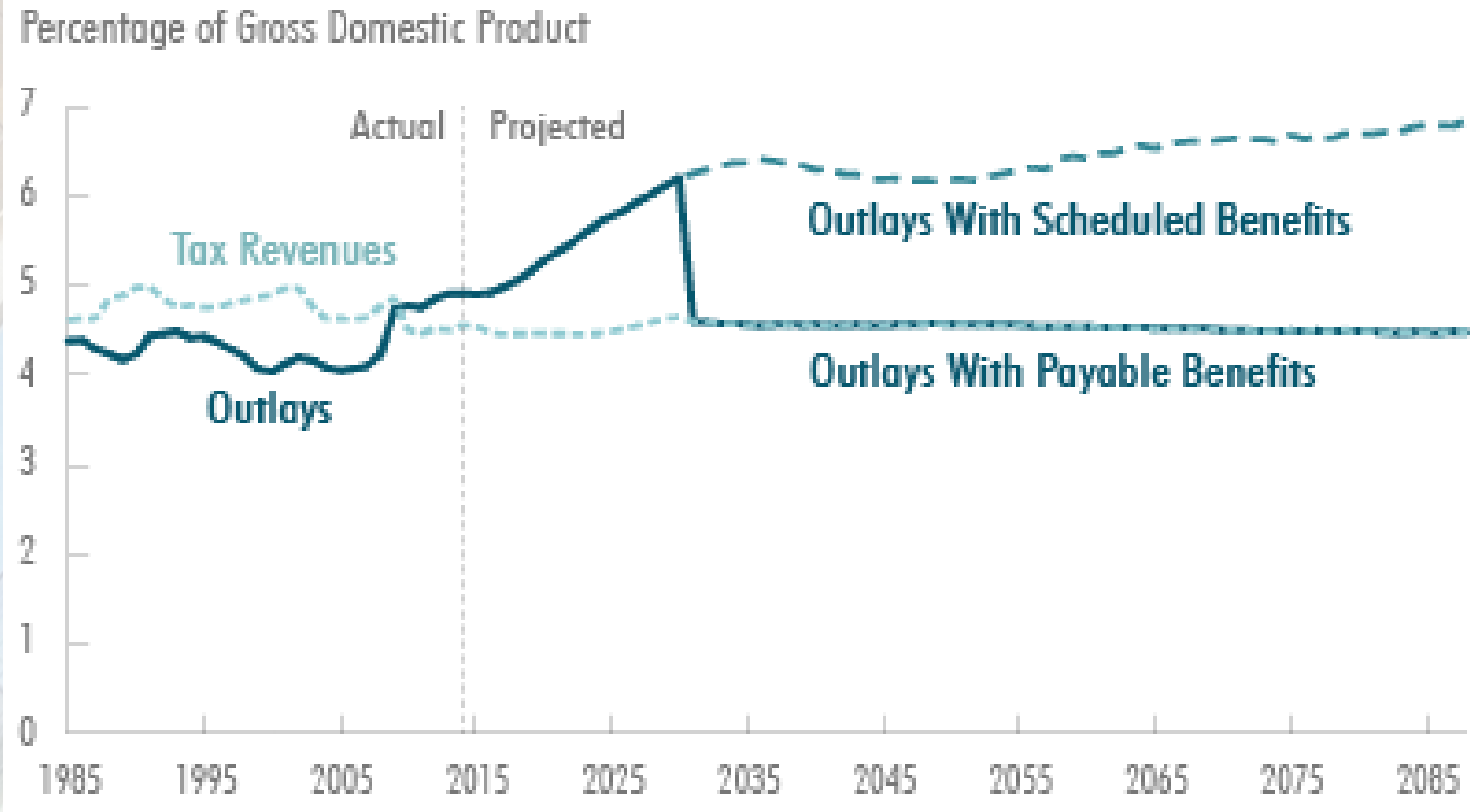
- Changes in life expectancy affect SS benefit payments over time
- Differences in life expectancy affect comparisons of total SS benefits across people
  - Low earners: higher replacement ratios
  - Low earners: lower life expectancy
  - Life expectancy at age 60 is 3.67 years longer in top half than in bottom half of income

Social Security System Solvency

- Baby boom (born 1946-1964) and rising life expectancy
- Many retirees and fewer workers
  - 1970: 3.7 workers per retiree
  - 2010: 2.9 workers per retiree
  - 2030: 2.0 workers per retiree


Projected U.S. Population Growth
Percentage change from 2012
200%
150
100
50
0
Age 85 and up
Age 65 and up
Total population
2015
'20
'25
'30
'35
'40
'45
'50
'55
'60
FIVETHIRTYEIGHT
SOURCE: U.S. CENSUS BUREAU

Social Security Tax Revenues and Outlays, With Scheduled and Payable Benefits



State of SS Trust Fund

- All agree will run out of money around 2030, IF no changes made to program
- Without trust fund, (and no other action), current SS taxes would have to pay current retirees, and so would require benefit reductions

Possible marginal reforms to SS

- Change in payroll tax structure/limits
- (Further) increases in normal retirement age
- Increase in early retirement age
- Benefit reductions

Is there a coming “retirement crisis”?

- Arguments for crisis
  - Social Security issues
  - State and local pension funds
  - Projections of savings
  - Move from DB to DC pension plans
    - And projection of DC accumulation for younger cohorts

Is there a coming “retirement crisis”?

- Arguments against
  - Near retirees and DC balances
    - Even over course of Great Recession did not vanish
    - DC-based retirement planning behavior is evolving
  - Incremental reforms to Social Security
  - Realistic view of necessary “replacement” of earnings
    - Income versus earnings
    - Work expenses
    - Lifestyle changes
    - Partial work/retirement increasingly common

Evidence on Current Retirement Income

- RAND study:
  - 66-69 year olds in 2014
  - ¾ are very likely to die with positive wealth
- Different situation for younger cohorts
  - Need to project retirement income/wealth
  - Each cohort (average) sees increase in projected wealth
  - BUT, decline in replacement rates (not keeping up with wage growth

Understanding Public Perceptions & Attitudes

- Much anxiety re: future retirement
  - Baby boom press
  - Social Security uncertainty for more than 30 years
  - Recession (and interaction with above)
- Anxiety tied to program sustainability, declining/stagnant wages, inequality

Future Retiree Security

Projected (Median per Capita) Income at Age 67, $2011

Birth Years	All	High School Education	College Graduates
1926-1935	$28,000	$29,000	$51,000
1936-1945	$38,000	$35,000	$66,000
1946-1955	$41,000	$36,000	$70,000
1956-1965	$44,000	$37,000	$77,000
1965-1975	$46,000	$38,000	$78,000