# Aging and the Macroeconomy: Long-Term Implications of an Older Population

**Committee on the Long-Run Macro-Economic Effects of the Aging U.S. Population**

**Study requested by US Congress; funded by US Treasury and NIA**

**Briefing**

**Co-Chair Ronald Lee**

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# Committee on the Long-Run Macroeconomic Effects of the Aging U.S. Population

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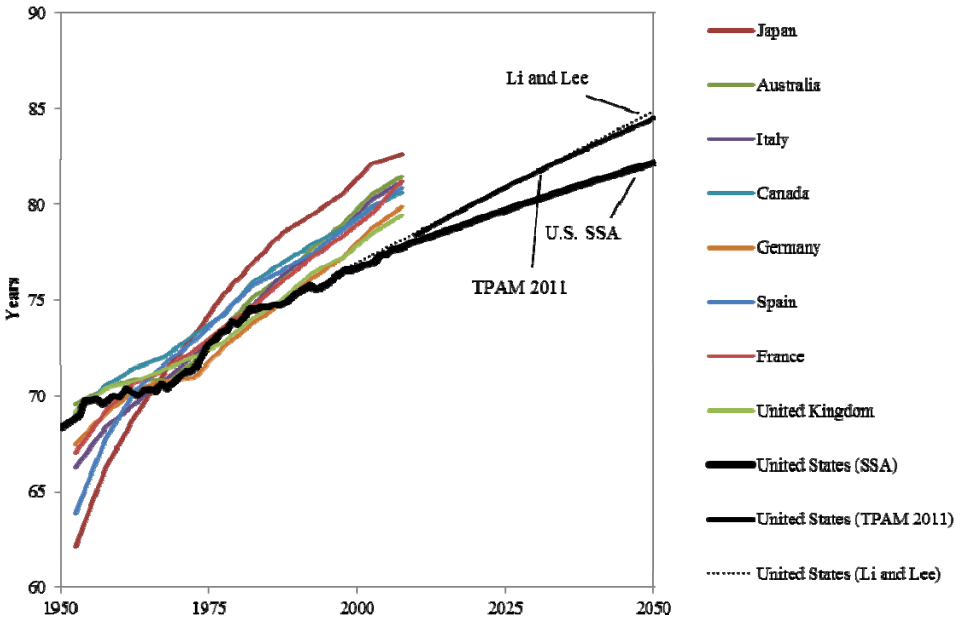
**Committee's charge: Develop a framework for evaluating the long-run macroeconomic implications of population aging, with a focus on:**

- Long-run U.S. demographic projections and their uncertainties
- The influence of the "baby boom" generation on future dependency ratios
- Changing retirement ages and the prospects for people working longer
- Trends in private pensions during the transition to an older society
- Factors affecting income security in old age---e.g., aggregate demand, savings, and investment---and their interactions
- Capabilities of government to maintain current levels of publicly funded support for the elderly
- Levels of personal savings needed to sustain living standards in retirement
- Savings adequacy for different age cohorts
- A research agenda to further our understanding of these issues

# 1. Sources of Population Aging in US

- Declining mortality, rising longevity — Suggests changes to the individual life cycle, such as retiring later or saving more. But…
- Lower fertility than in the past slows growth of working age population
- Aging of the Baby Boom accelerates growth of elderly.
- These require large additional adjustments, beyond those for longer life.

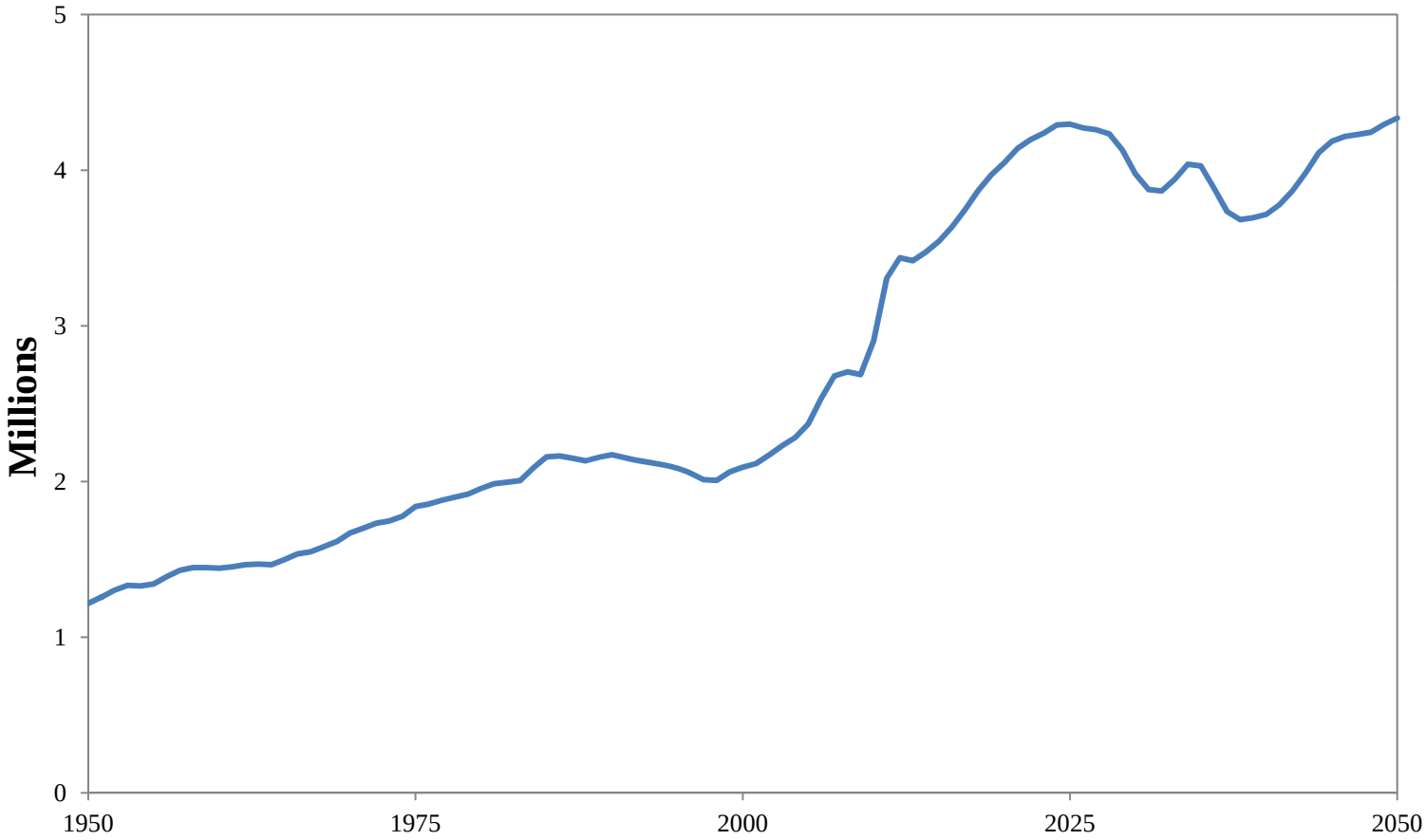
# Life expectancy at birth in selected countries




- Life expectancy has risen since 1950.
- The Committee agrees with the Soc Sec Tech Advisory Panel that it will rise more rapidly than Soc Sec projections (+>2 yrs).
- Committee expects 84.5 by 2050, an increase of 6.5 years

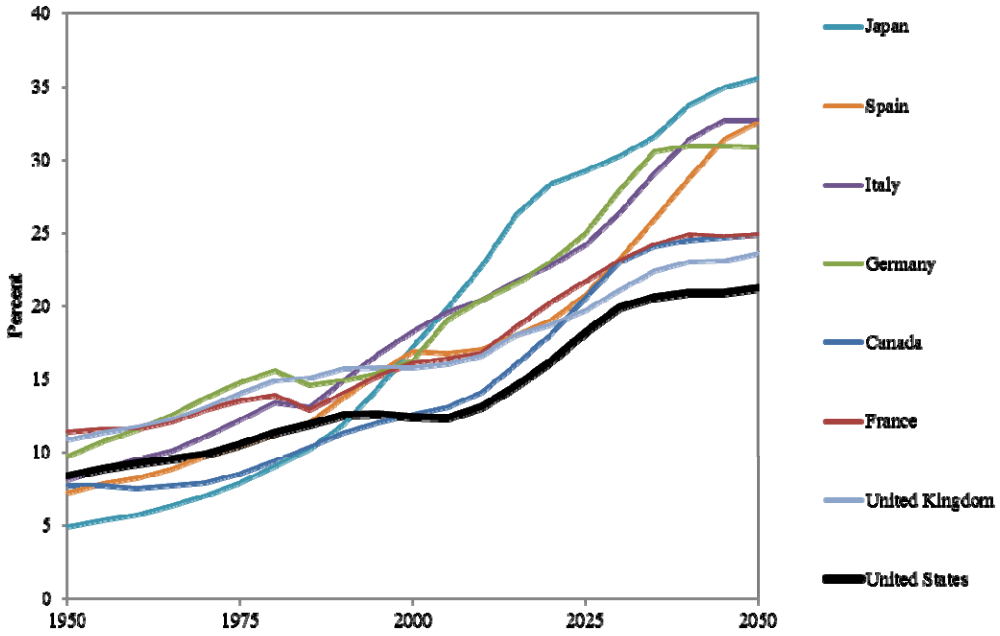
SOURCES: United Nations (2011); Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds (2011); Li and Lee (2005); and Technical Panel on Assumptions and Methods (2011).

# Number of people turning 65, 1950-2050



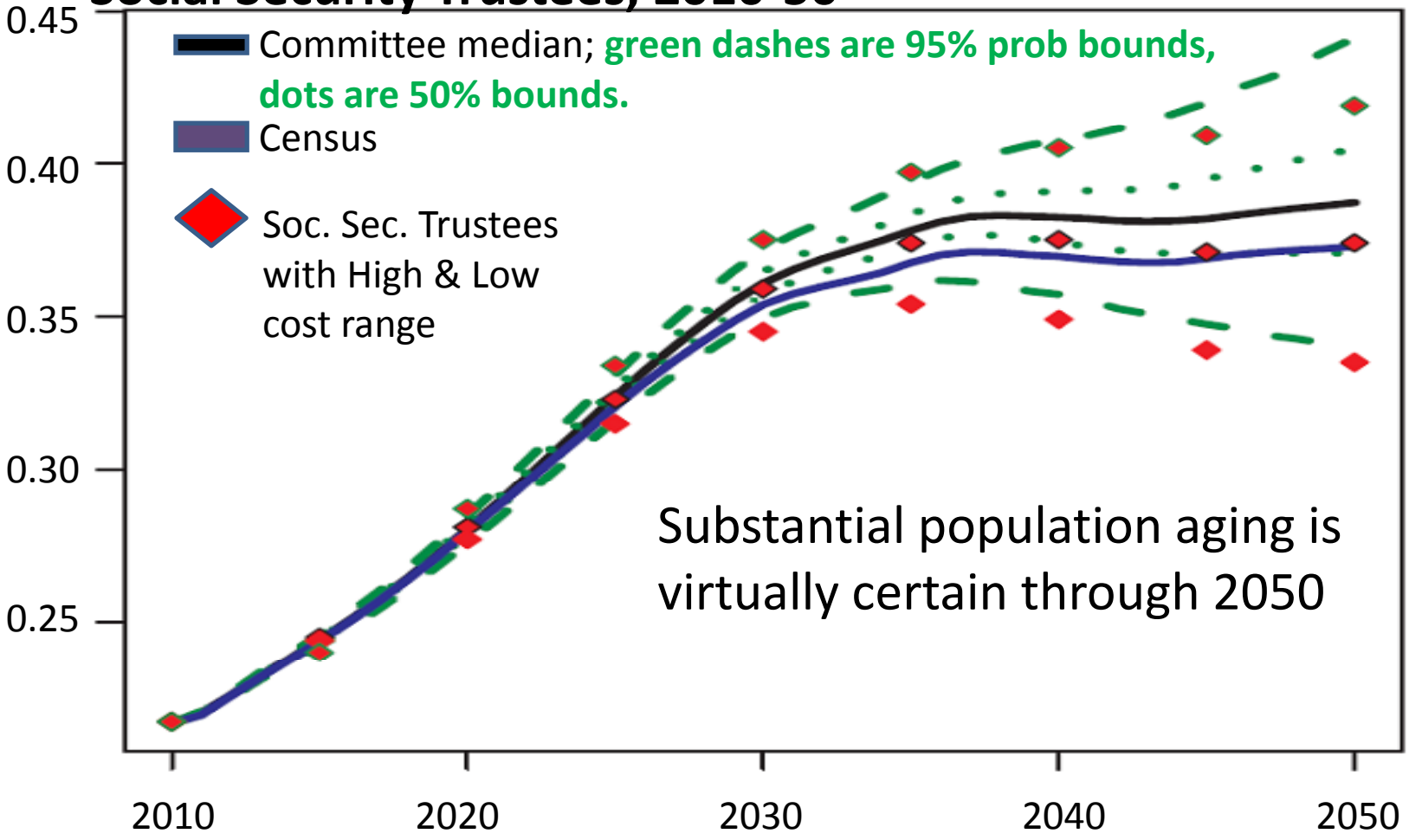

SOURCES: Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds (2011) and projections by the committee.

# Share of population aged 65+ in eight high-income countries, 1950-2050




- US is aging more slowly than other high-inc countries
- Main reason: US has higher fertility

# Assessing Uncertainty: Old-age dependency ratio as projected by the Committee, the Census Bureau, and the Social Security Trustees, 2010-50

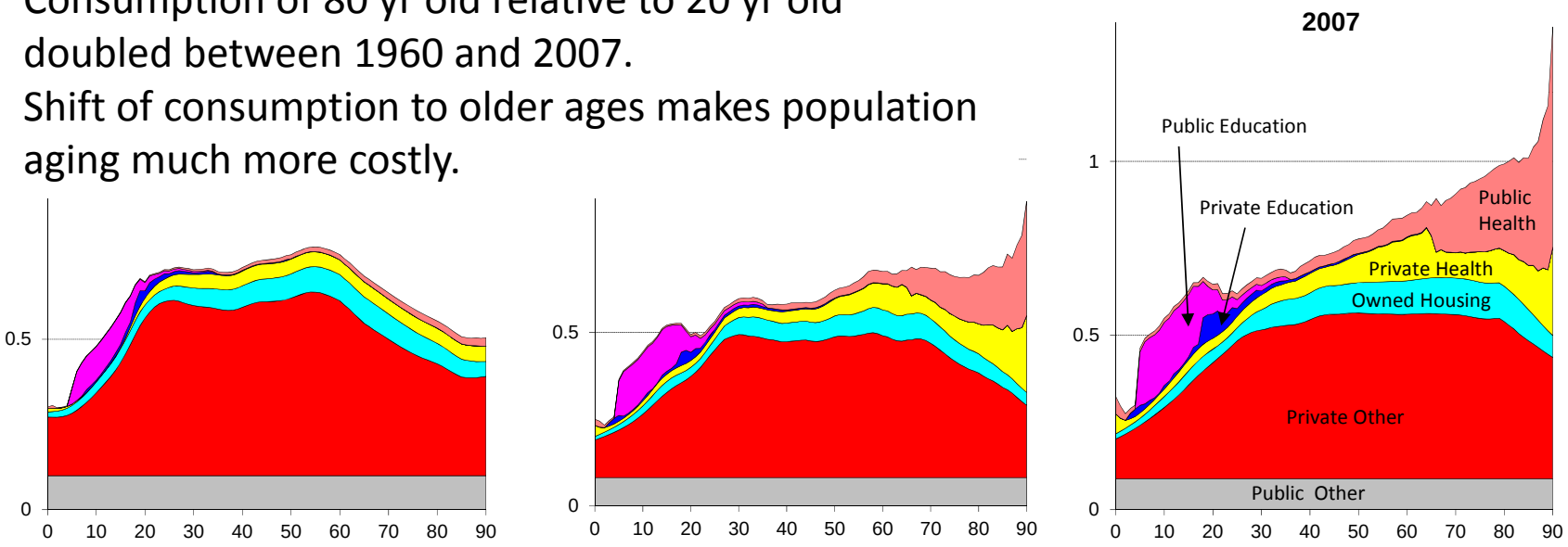



SOURCES: Donehower and Boe (2012), U.S. Census Bureau (2008), and Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds (2012).

# U.S. consumption (private plus public in-kind transfers), 1960, 1981, and 2007

(Ratio to average labor income ages 30-49).

- Big increase in relative consumption by elderly
- Increased consumption of health services, particularly Medicare and Medicaid, major driver.
- Consumption of 80 yr old relative to 20 yr old doubled between 1960 and 2007.
- Shift of consumption to older ages makes population aging much more costly.




Source: U.S. National Transfer Accounts, Lee and Donehower, 2011.

# Decline in support ratio

- Support ratio is weighted by baseline labor income by age in numerator and consumption by age in denominator.
- Includes both private and publicly provided consumption.
- Pop aging from 2010 to 2050 reduces the support ratio by 12%, or by .33% per year.
- Means consumption would grow .33% more slowly than otherwise.

# What would it take to reduce the Old Age Dependency Ratio in 2050 by 10%, from .39 to .35?

- Raise fertility each year by .5 births per woman, or 25%.

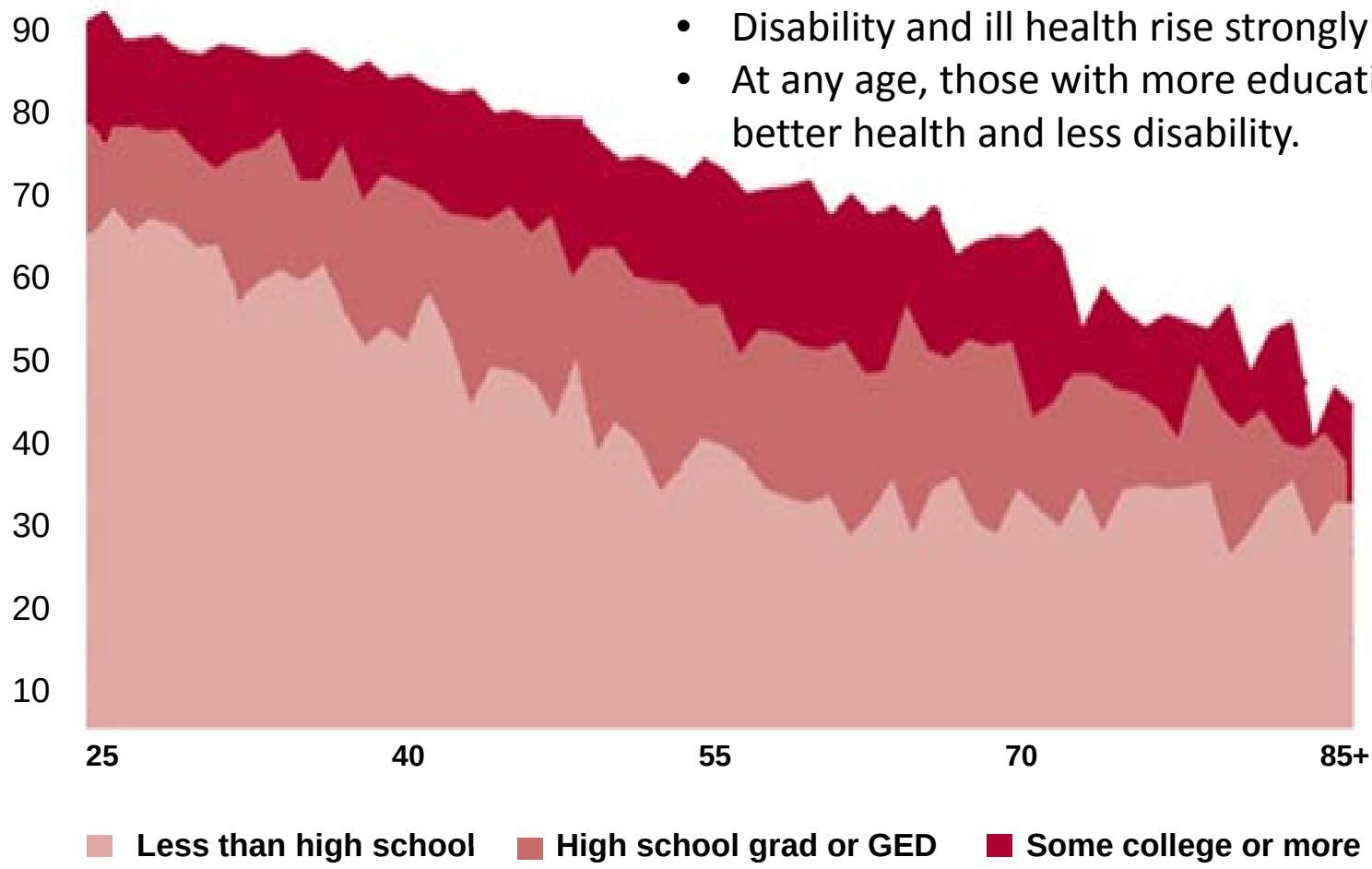
- Increase net immigration by 1 million each year (or by 69%).

- Raise the boundary used in the calculation between working ages and old age from 65 to 66.7

# 2. Trends in Health and Disability

- Important for ability to work, costs of health care, and enjoyment of life.

# Percent in very good or excellent health by age and education, 2002-2004




- Disability and ill health rise strongly with age.
- At any age, those with more education have better health and less disability.

SOURCE: MacArthur Foundation Research Network on an Aging Society (2009), based on data from the National Health Interview Survey.

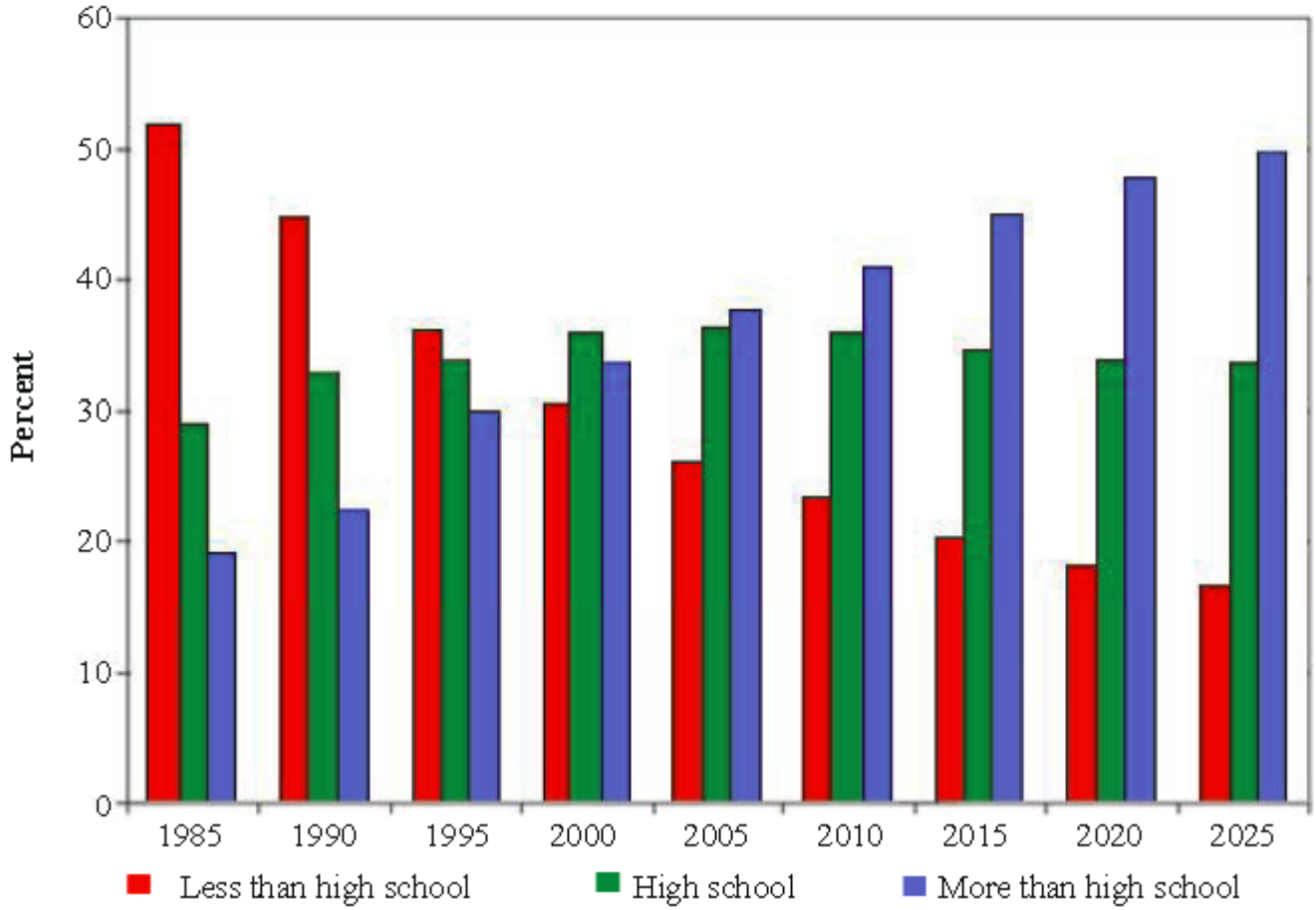
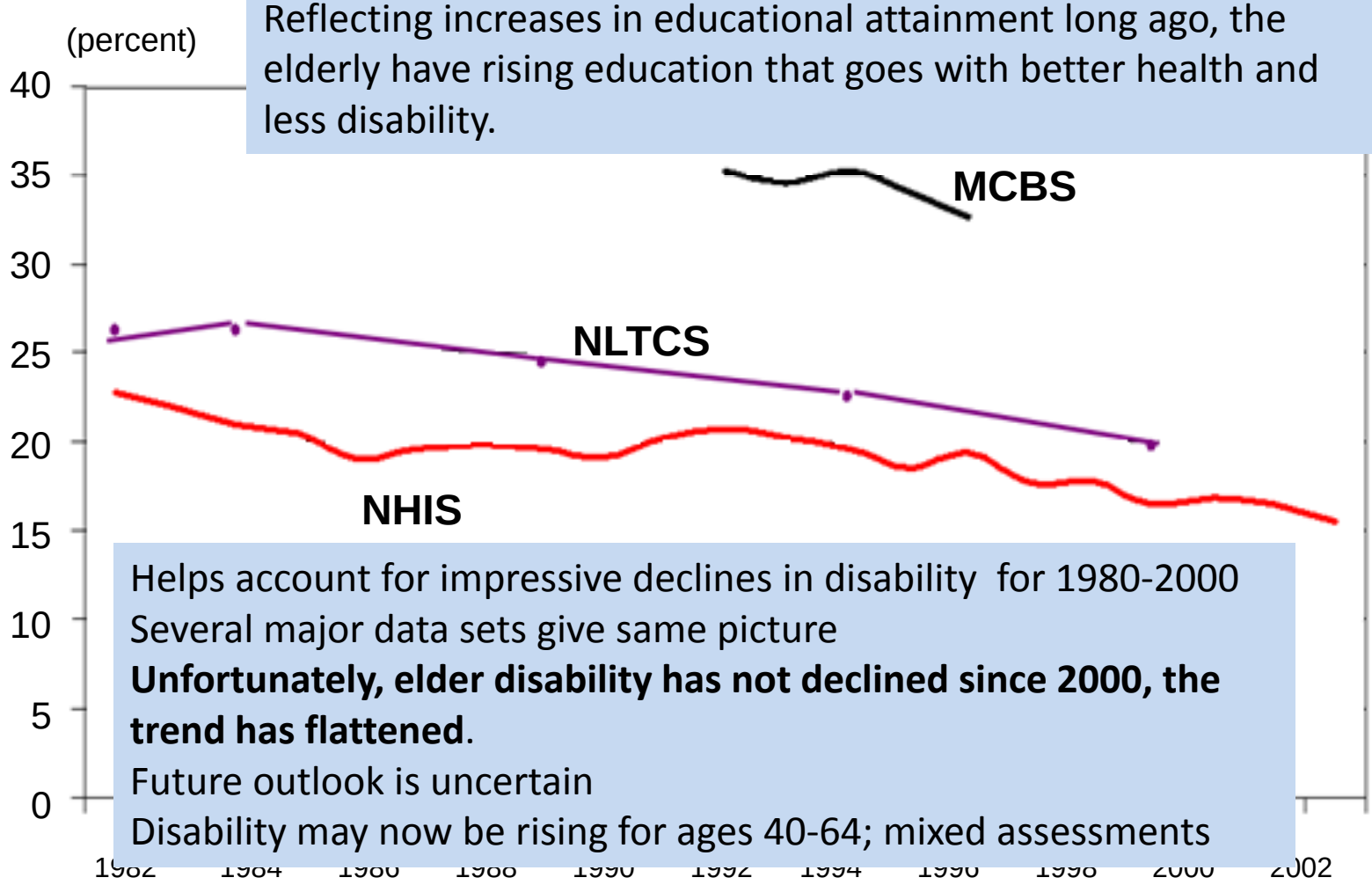



**FIGURE 4-2** Educational attainment at ages 65+, 1985 to 2025. SOURCE: Martin, Schoeni, and Andreski (2010).

# Trend in disability rate for ages 65+ in three national surveys, 1980-2002




Reflecting increases in educational attainment long ago, the elderly have rising education that goes with better health and less disability.

Helps account for impressive declines in disability for 1980-2000
Several major data sets give same picture
**Unfortunately, elder disability has not declined since 2000, the trend has flattened**.
Future outlook is uncertain
Disability may now be rising for ages 40-64; mixed assessments

SOURCE: Data as reported in the Medicare Current Beneficiary Survey, the National Long-Term Care Survey, and the National Health Interview Survey.

# Health is not the main limitation on work at older ages

- More than half of men 65-69 who are not working have no  health impairment.
- Half of men 70-74 not working have no health impairment
- For men 65-69, taking health into account, labor force participation could be
  - 51% higher for those with High School or less,
  - 58% higher for those with any college

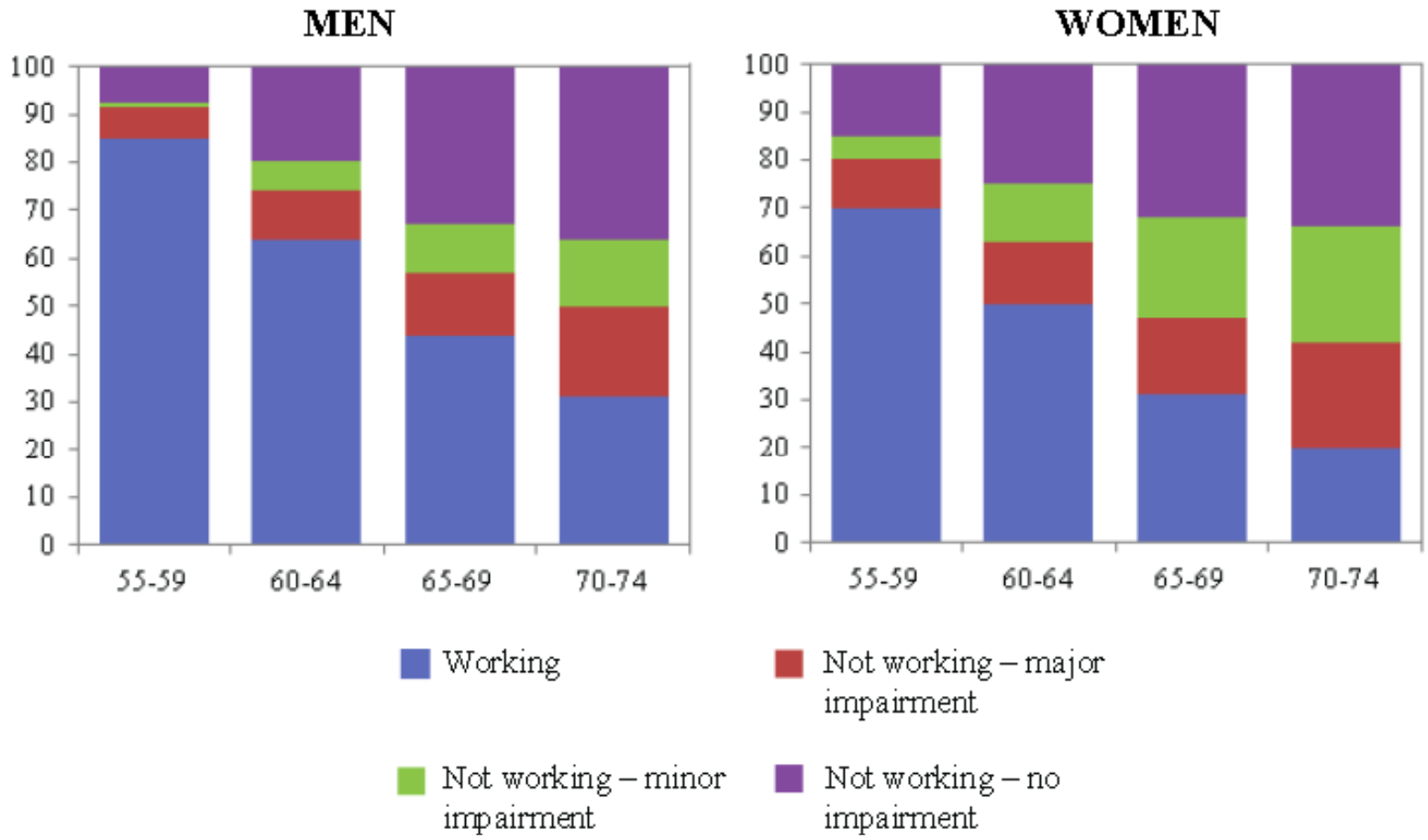



**FIGURE 5-10** Percent of older population working and not working, by age and sex, composite HRS data for 1992 to 2008. SOURCE: Rehkopf, Adler, and Rowe (2011).

# Special projections to 2050 of potential labor force for population age 20-74

- Reflect changing trends in age, education, occupation, ethnicity, obesity, diabetes, and other major and minor impairments.
- If disability rates for each characteristic stay the same, the proportion able to work will decline very slightly from
  - 91% today
  - 89% in 2050
- Assumes no change in assistive technology or the nature of work

# 3. Aging and the Labor Force

- While life expectancy rose in the 20th century, the retirement age declined.
- Since 1995, however, retirement age has risen by about 1.5 years for men and for women.
- One cause: a huge shift in employer provided pensions from defined benefit to defined contribution, removing incentives for early retirement.

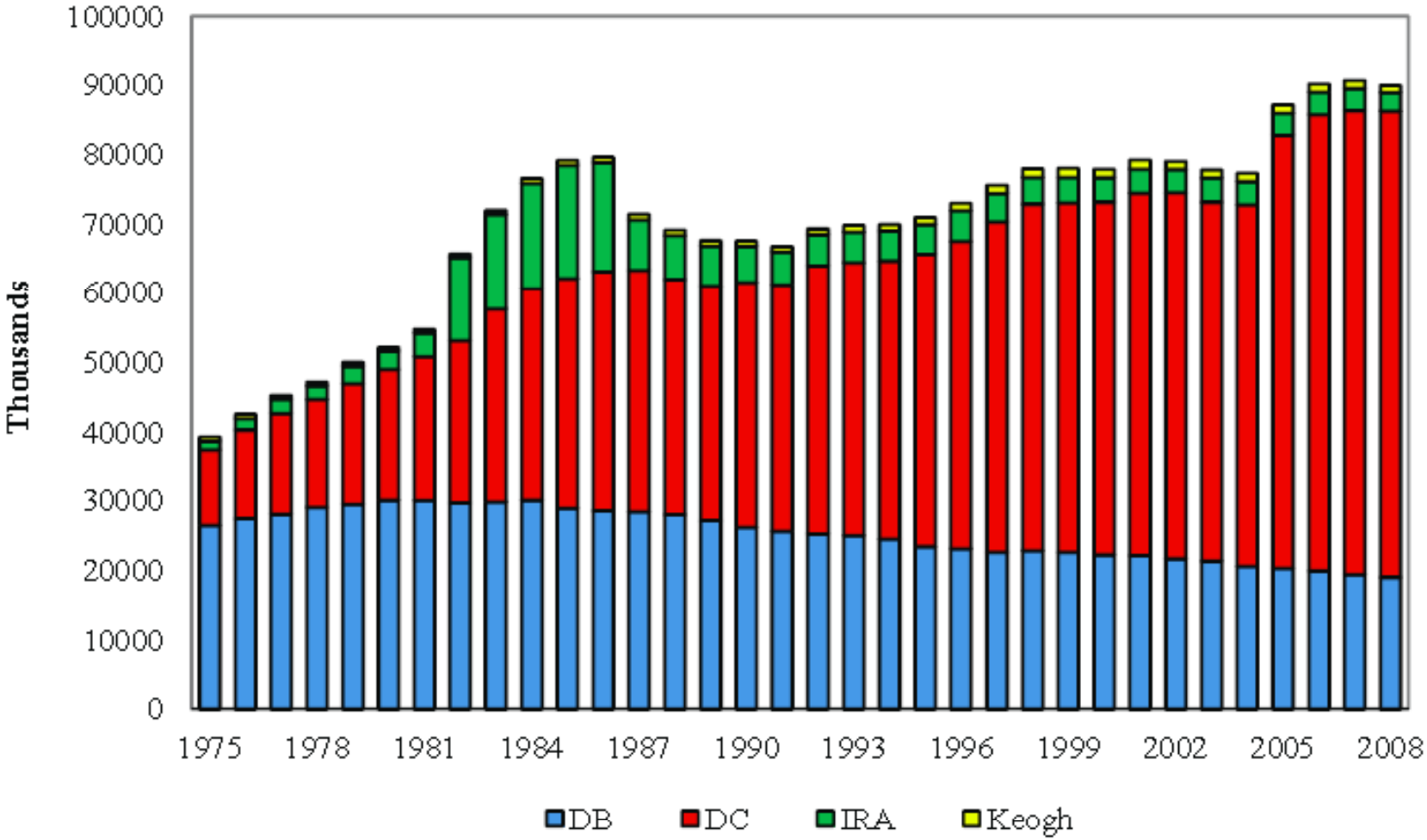
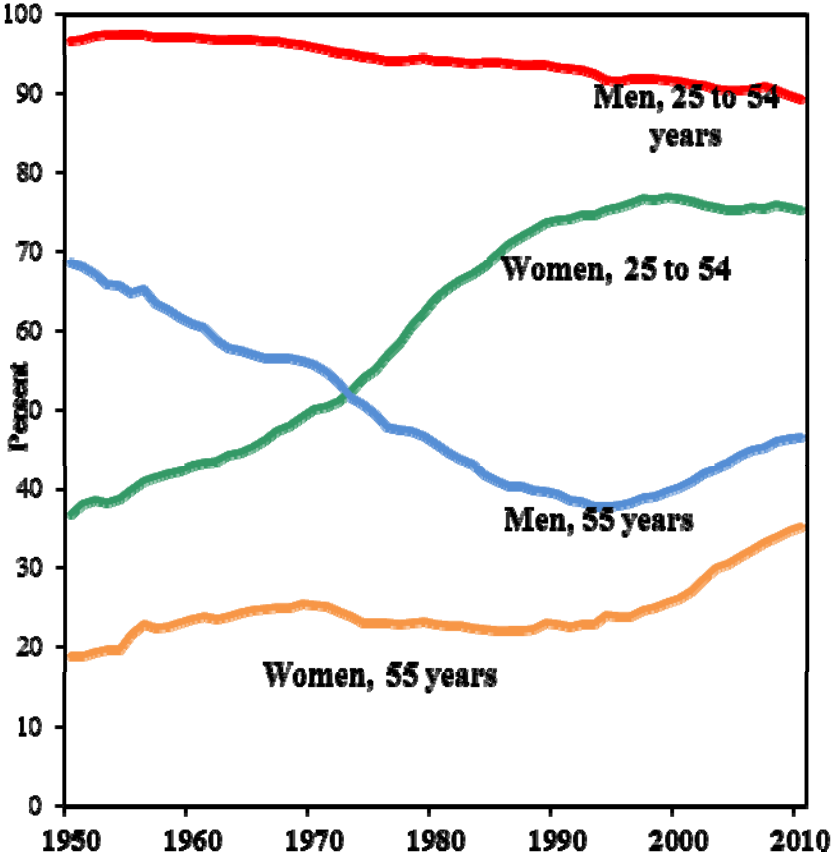



**FIGURE 5-14** Pension plan participants in the private sector by plan type, 1975-2008. SOURCES: Data for defined benefit (DB) and defined contribution (DC) from Department of Labor, Form 5500; data for individual retirement accounts (IRA) and Keogh plans from Internal Revenue Service, Statistics of Income.

# Trends in working, 1950-2010




- There has been a big decline in working for older men
- Since 1994, the mean age at retirement has risen by about 1.5 years for both men and women.

# How employment at older ages could be encouraged– some examples

- Facilitate part time work by elderly
- Raise incentives for elderly to work
  - Remove disincentives in public and private pension programs (implicit tax on working longer)
  - "Paid-up" option: eliminate payroll tax after 35 or 40 years of contributions, raises after-tax wage
- Raise incentive for employers to hire older workers
  - Make Medicare primary insurer for 65+ workers, rather than the employer-provided plan

# Social security incentives to retire are an important cause of the low labor force participation of older workers.

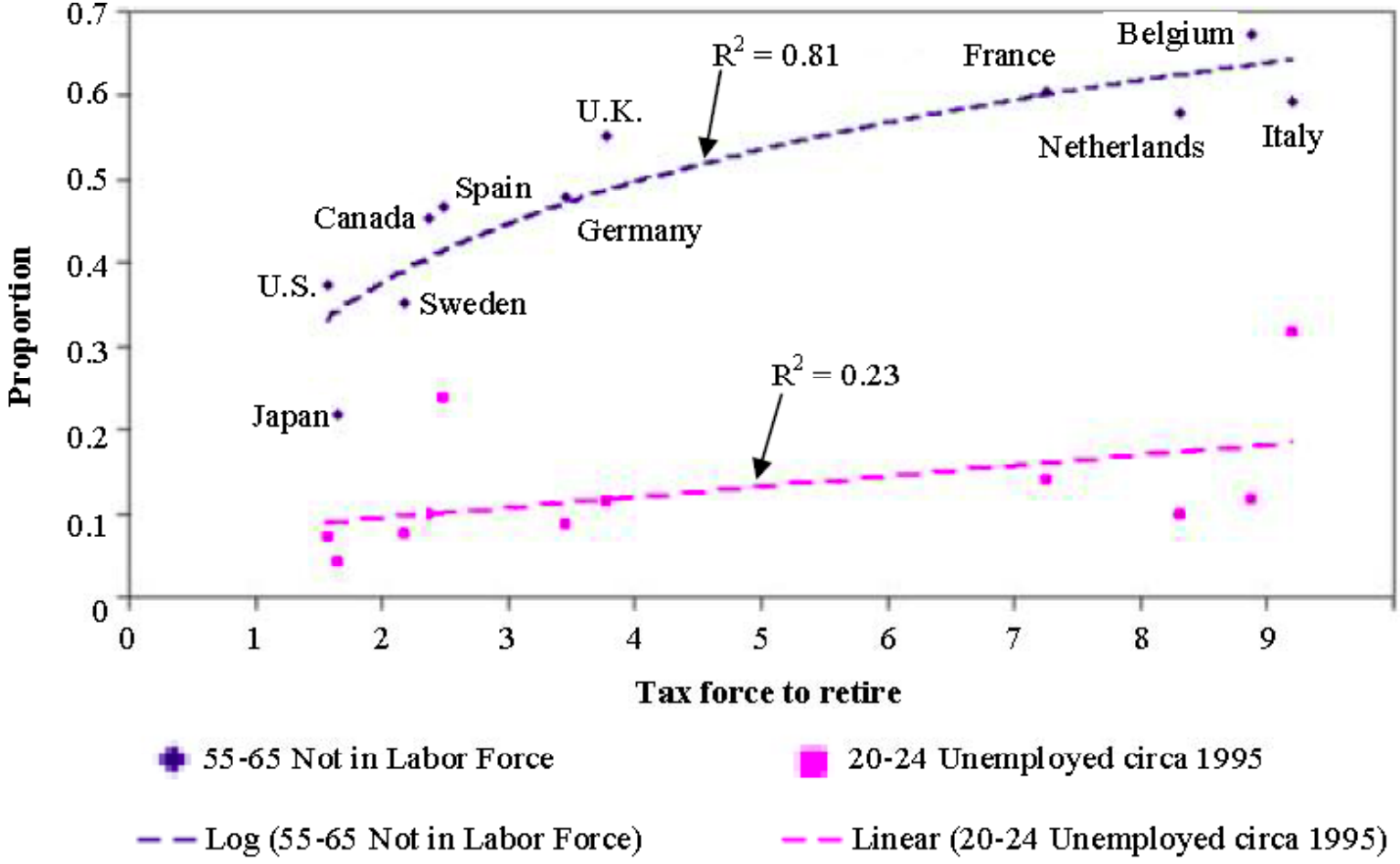
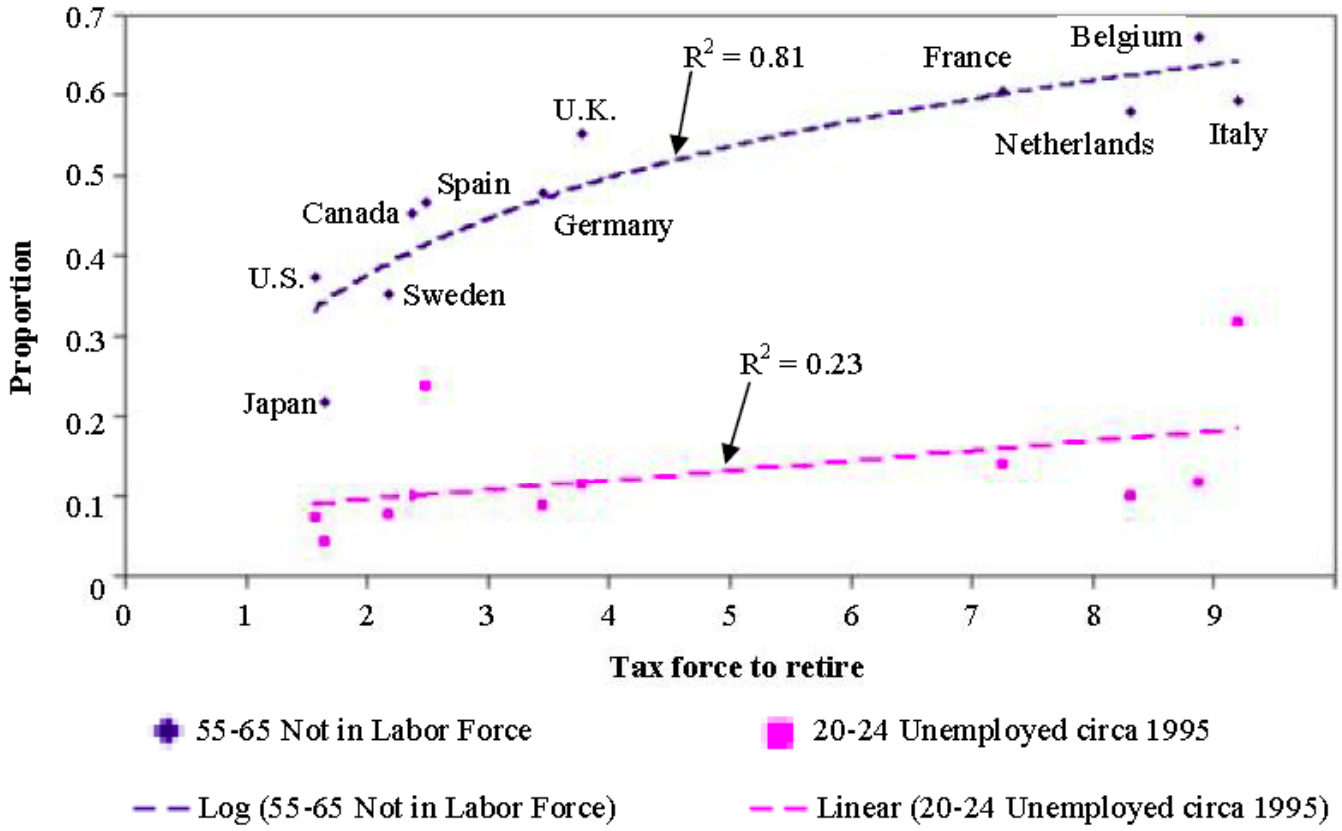



**FIGURE 5-12** Tax force to retire, proportion of men aged 55-65 out of the labor force and proportion of youth aged 20-24 unemployed, circa 1995. SOURCE: Gruber, Milligan, and Wise (2009).

# Increased work by elderly will not take jobs from young

- Youth unemployment is higher in countries in which public pensions encourage elderly to retire young
- Policies designed to get the elderly out of the labor force (e.g. Denmark) did not help the young.

# Where pension incentives promote early retirement, youth unemployment is higher

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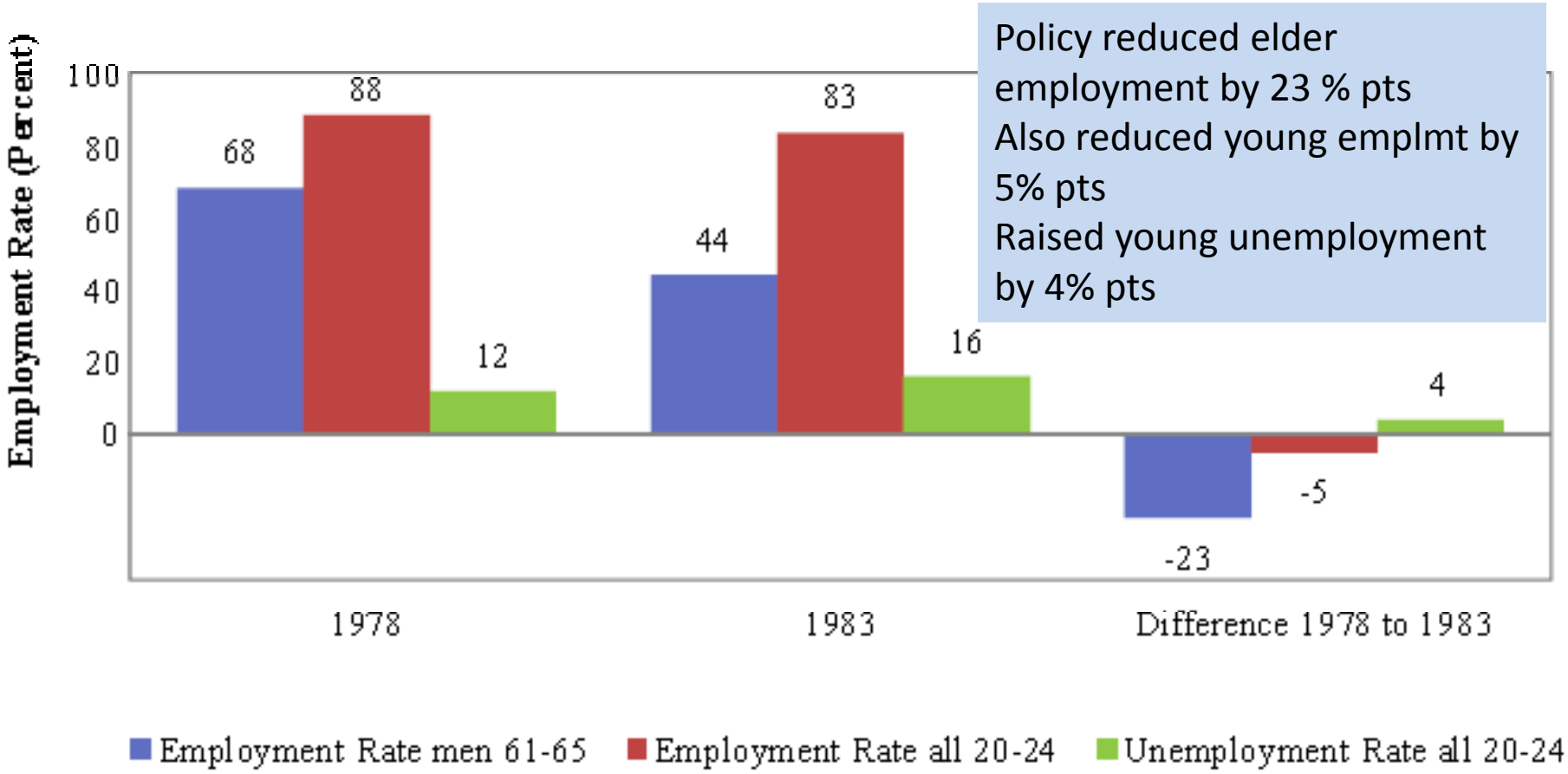



**FIGURE 5-13 Response to the 1979 Post-Employment Wage reform in Denmark.**
SOURCE: Gruber, Milligan, and Wise (2009).

# 4. Will an Aging Labor Force Be Less Productive and Less Innovative?

- Our analyses tentatively suggest a negligible effect of population aging on the aggregate productivity of the labor force for next 20 years.
- For innovation and technological progress many factors appear to be much more important than population age distribution.

# 5. Are We Saving Enough for Retirement?

- According to various studies, between one fifth and two thirds of the older population has undersaved for retirement.
- These studies assume that Social Security and Medicare benefits will be paid as scheduled, which may not occur due to fiscal pressures.
- Many employer-provided pension plans, both public and private, are underfunded

# Possible policy options

- Increase financial literacy – many don't understand basic concepts.
- Improve annuity products
- Introduce insurance for a wide range of risks (longevity, home price, health care, inflation, etc.)
- Improve reverse mortgages
- Put Social Security, Medicare and Medicaid on stable, sustainable basis.

# 6. Will Aging Populations Depress Rates of Return on assets?

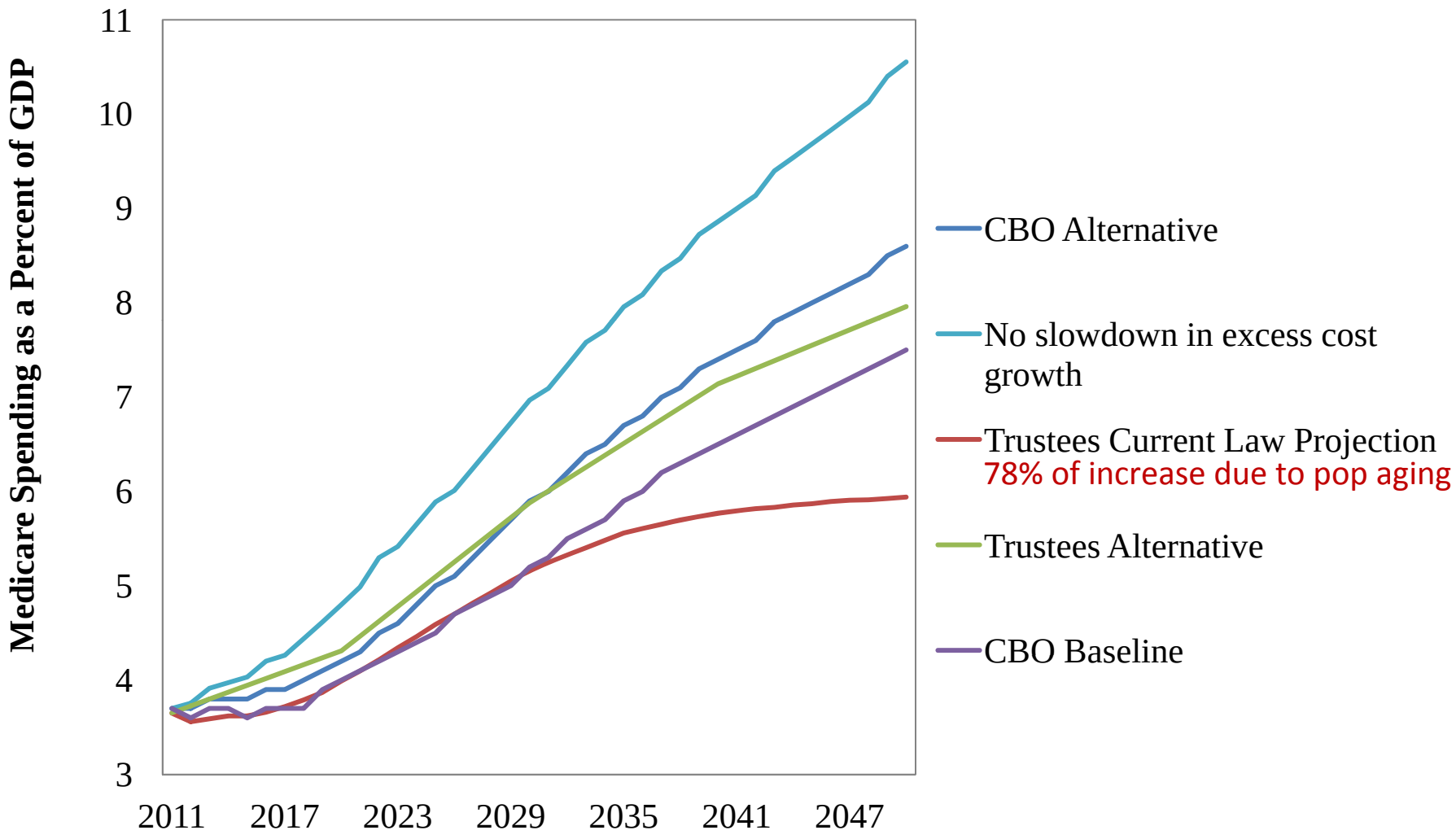
- Very important question for retirement plans and planning
- Capital markets are global
- The global population is aging, particularly if weighted by national per capita income.
- The net effect of population aging on total asset holdings and rates of return is unknown because
  - An aging population is likely to have more private wealth per capita.
  - But an aging population is also likely to drive up government debt.
- Effect of population aging in US on housing prices will probably be small overall, since population will still grow.
- Committee concludes that net effect of population aging on rates of return is likely to be modest, 1/3% to 1% decline.

# 7. The Outlook for Fiscal Policy

- Support ratio declines 12%, but pressure on specific government programs (Social Security, Medicare and Medicaid) is much greater.
- Sizeable portion of elder consumption is financed by these programs.
- Population aging through these programs will lead to progressively larger deficits.

- Government programs are also important because it is largely through them that policies could influence retirement age or employers' demand for older workers, or change relative consumption of elderly and working age groups.
- Government programs will largely determine the ages and generations that bear the costs.
- Biggest problem is health care costs, and effect of recent reforms is still unknown.

# Alternative projections of Medicare spending, 2011-2050




SOURCE: Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds (2011).

# Importance of Acting Soon: Adjustment Needed to Maintain the 2011 Debt:GDP Ratio Through 2050

| | Required Adjustment (% of GDP) | |
|---|---|---|
| | • Tax revenues rise to 21% of GDP<br>• Medicare Trustees cost projection<br>• Budg Cntrl Act stays | • Tax revenues stay at 18% of GDP<br>• CBO Alt projection for Medicare cost<br>• Budg Cntrl Act repealed |
| Adjustment Takes Place in: | Optimistic Scenario | Pessimistic Scenario |
| 2012 | 1.1 | 4.8 |
| 2022 | 1.7 | 6.1 |
| 2032 | 2.4 | 7.7 |

SOURCE: Committee calculations based on Auerbach and Gale (2012).

- Action is necessary, the sooner better.
- But it is also important to consider how policy changes might affect economic efficiency.
- Indirect effects (labor supply, saving, investment) could make dealing with population aging easier or harder.

# 8. What Does It All Mean?

- We must adjust to changing demographic realities:
  - Lower birth rates
  - Slower labor force growth
  - Longer lives
- There are four possibilities (can be mixed) with different implications for different ages and generations
  - Save more and consume less
  - Pay higher taxes and consume less
  - Reduce benefits (and consumption) for elderly
  - Work longer and retire later

# Basic questions

- How should we allocate costs of population aging across these four options and across ages and generations?
- How soon should we make these changes? The longer we wait, the bigger the "legacy liability" we pass on to younger generations.
- The longer we wait, the harder it is for people and firms to plan their finances.

Nation must take action soon, rather than simply continuing with same policies.

Population aging poses a serious challenge, but not an insurmountable one.

# 9. We make many detailed Research Recommendations under these headings; see report

- Demographic and Health Measures and Projections
- Work Capacity and Incentives to Longer Working Life
- Changes in Consumption and Saving
- Modeling and Data