APPLICATION: Why Choose 35 Years?

- Using the 35 highest years reflects multiple concerns.
  - No penalty for low-earning years early in career.
  - Not too large a benefit for high earning years late in career.
- Too short a window leads to abuse:
  - Bus driver working 25-hour shifts to maximize pension payment.
  - Brazilian public employees receiving promotions right before retirement.

13.1

How Are Social Security Benefits Calculated?

- Beneficiaries receive annuity payments.
  - **Annuity payment:** A payment that lasts until the recipient's death.
- Payment size depends on the recipient's average earnings over the 35 highest earning years, called the *Average Indexed Monthly Earnings, or AIME*.
- Benefits are a redistributive function of past earnings, as the replacement rate falls with AIME.
  - **Replacement rate:** The ratio of benefits received to earnings prior to the entitling event.

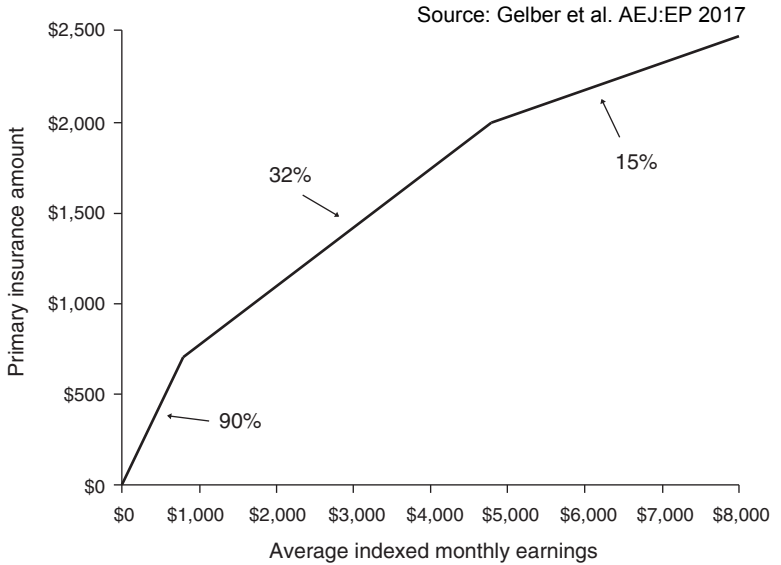


FIGURE 1. PRIMARY INSURANCE AMOUNT AS A FUNCTION OF AVERAGE INDEXED MONTHLY EARNINGS

Notes: The figure shows the primary insurance amount (PIA) as a function of average indexed monthly earnings (AIME) in 2013. The percentages are marginal replacement rates.

Source: SSA (2013)

What Is Social Security and How Does It Work?

How Does Social Security Work Over Time?

How Social Security Redistributes Income

■ TABLE 13-1

Social Security in a Two-Period World

Period	Number of Young Workers	Earnings Per Young Worker	Taxes Paid Per Young Worker	Total Taxes Paid	Number of Old Retirees	Benefits to Old Retirees	Taxes Paid by Old Retirees	Rate of Return
1	100	$20,000	0	0	0	0	—	—
2	105	$21,000	$2,100	$220,500	100	$2,205	0	Infinite
3	110	$22,050	$2,205	$242,550	105	$2,310	$2,100	10%
4	115	$23,153	$2,315	$266,225	110	$2,420	$2,205	10%
5	121	$24,310	0	0	115	0	$2,315	Negatively infinite

How Does Social Security Redistribute in Practice? SSW for a Single Male

Earnings	Turns 65 in 1960	Turns 65 in 1995	Turns 65 in 2030
Low earner	$26,100	$12,500	−$4,100
Average earner	35,500	−5,100	−56,200
High earner	35,800	−41,100	−248,500

- Redistribution from younger to older cohorts due to:
  - First cohort didn't pay in until 1937.
  - Payroll tax has increased over time.

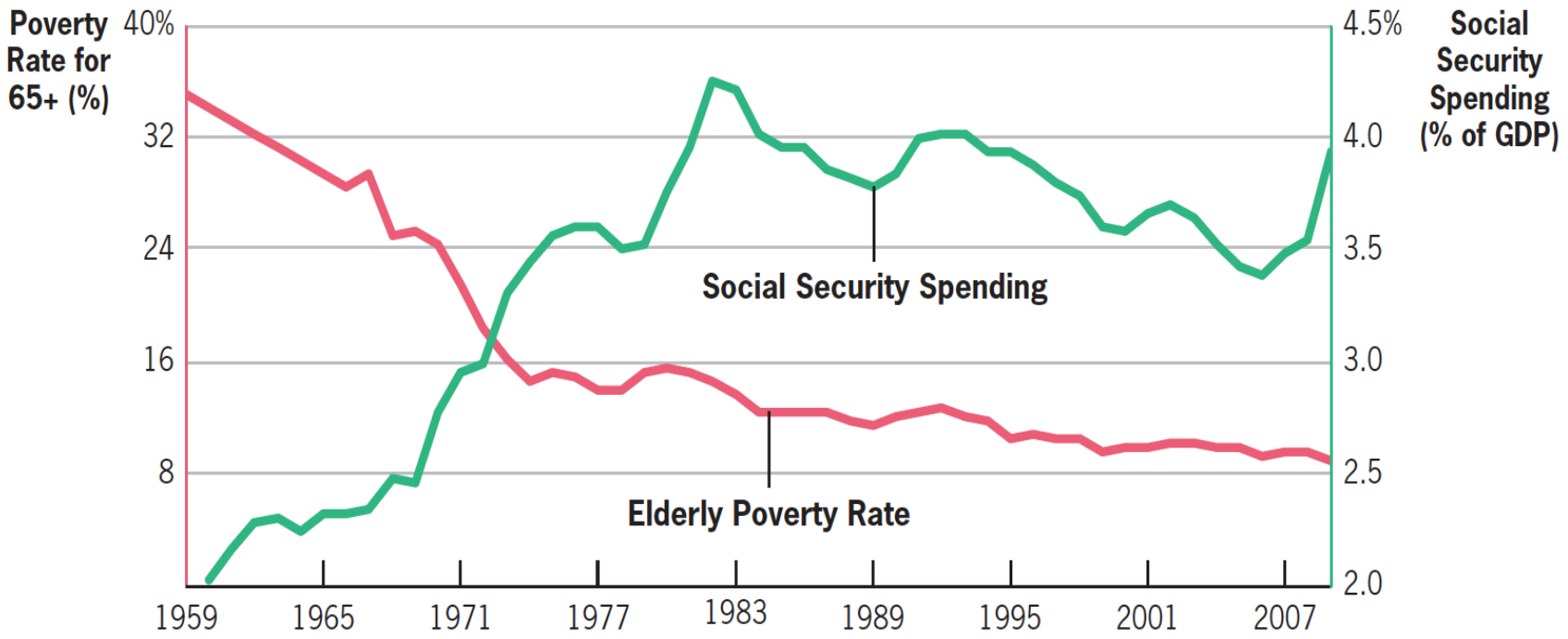
How Does Social Security Redistribute in Practice?

Some examples of how SSW varies within groups that are the same ages include the following:

- Females have more SSW than males because they live longer.
- Married couples have more SSW than single people.
- Single-earner couples have more SSW than two-earner couples.
- The gains to the poor relative to the rich from Social Security are overstated because the length of life rises with income.

13.2

Living Standards of the Elderly, 1959–2009



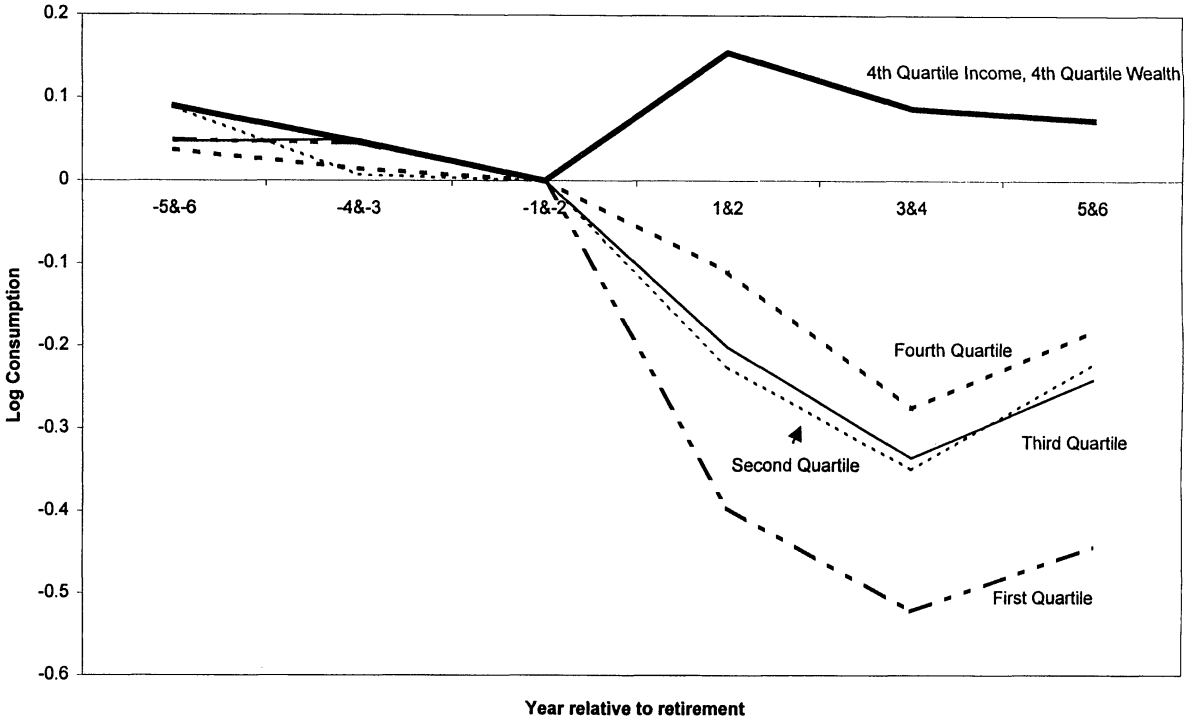


FIGURE 4. CHANGE IN CONSUMPTION AT RETIREMENT, BY WEALTH QUARTILE

Source: Bernheim et al. (2001), p. 847

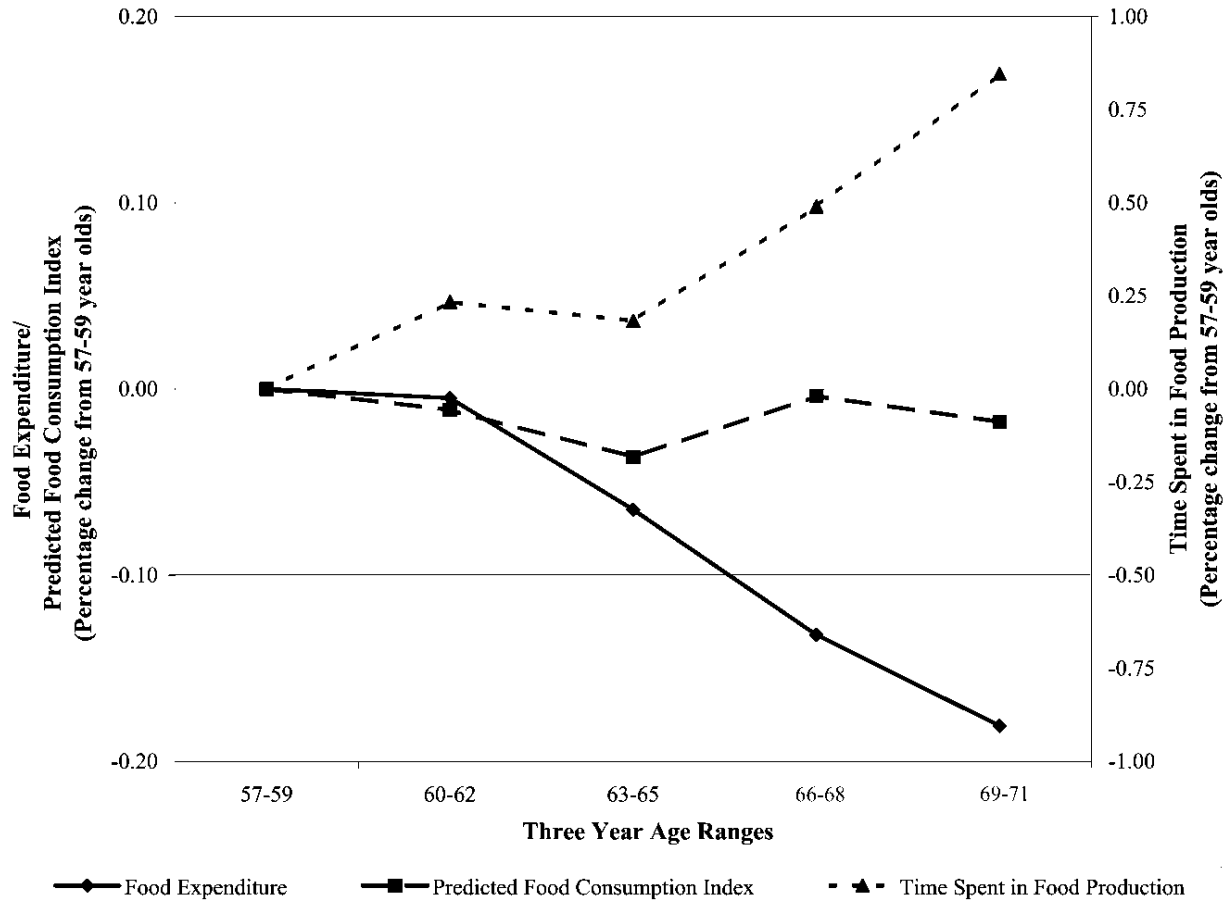
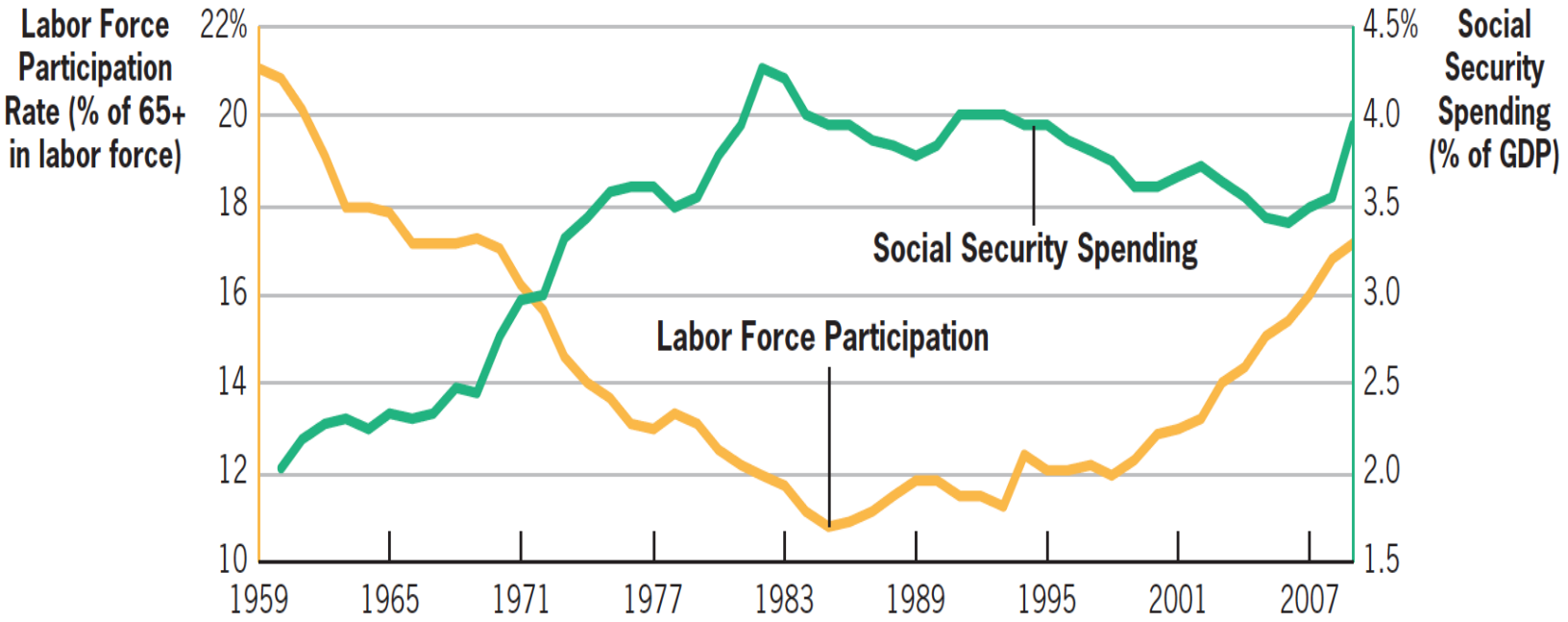


FIG 1.—Percentage change in food expenditure, predicted food consumption index, and time spent on food production for male household heads by three-year age ranges. Data are taken from the pooled 1989–91 and 1994–96 cross sections of the CSFII, excluding the oversample of low-income households. The sample is restricted to male household heads (1,510 households). All series were normalized by the average levels for household heads aged 57–59. All subsequent years are the percentage deviations from the age 57–59 levels. See Sec. IV for details of data and derivation of food consumption index

Source: Aguiar and Hurst (2005), p. 925

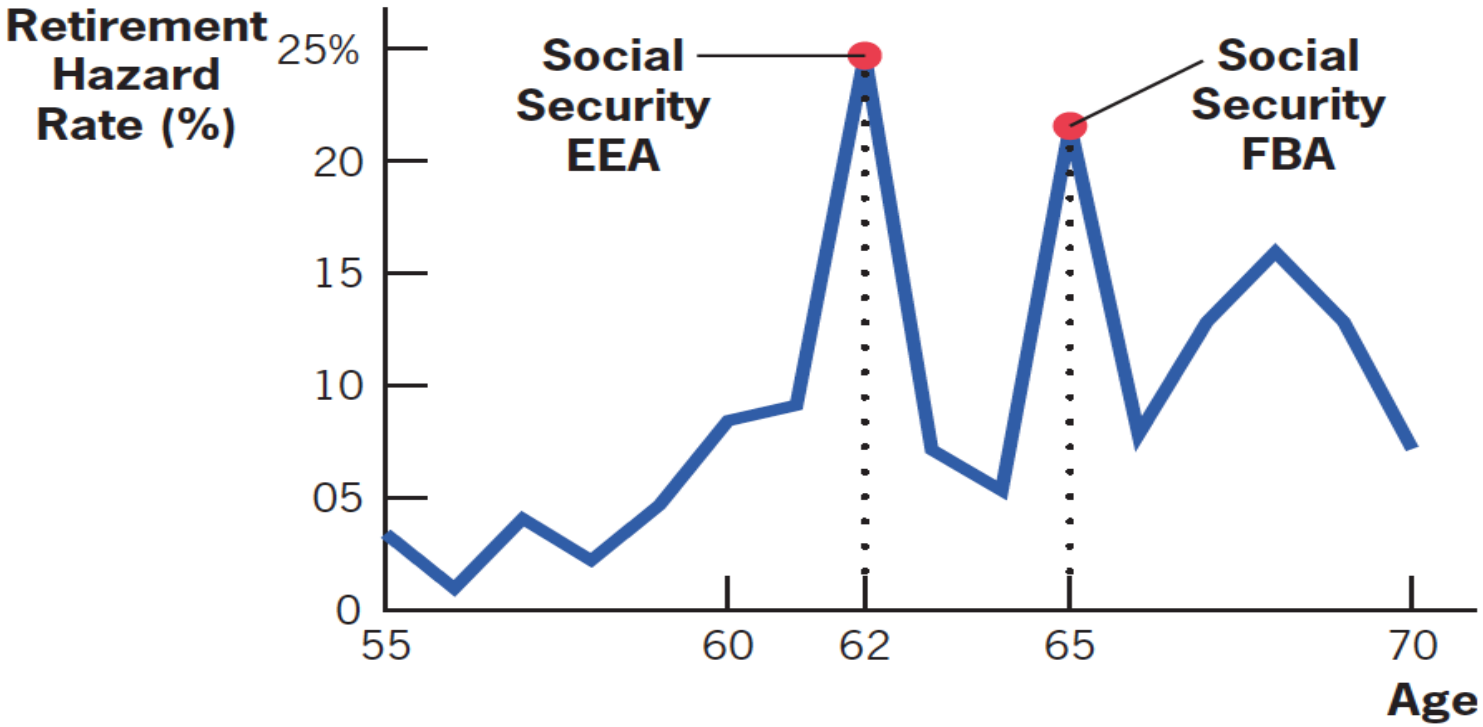
13.3

Elderly Work and Social Security, 1959–2009



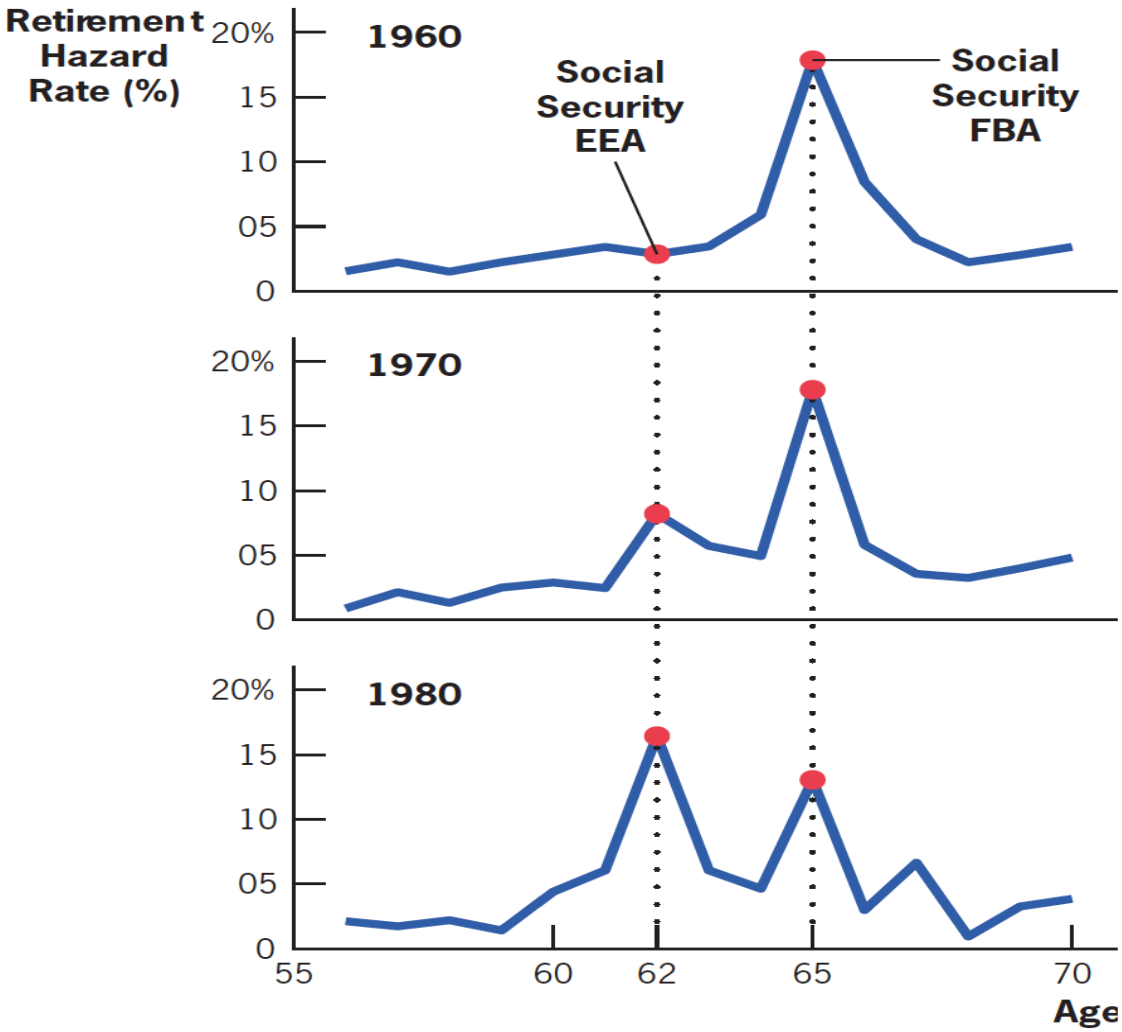
Spike in Retirement Hazard at EEA

- **Retirement hazard rate:** The percentage of workers retiring at a certain age.



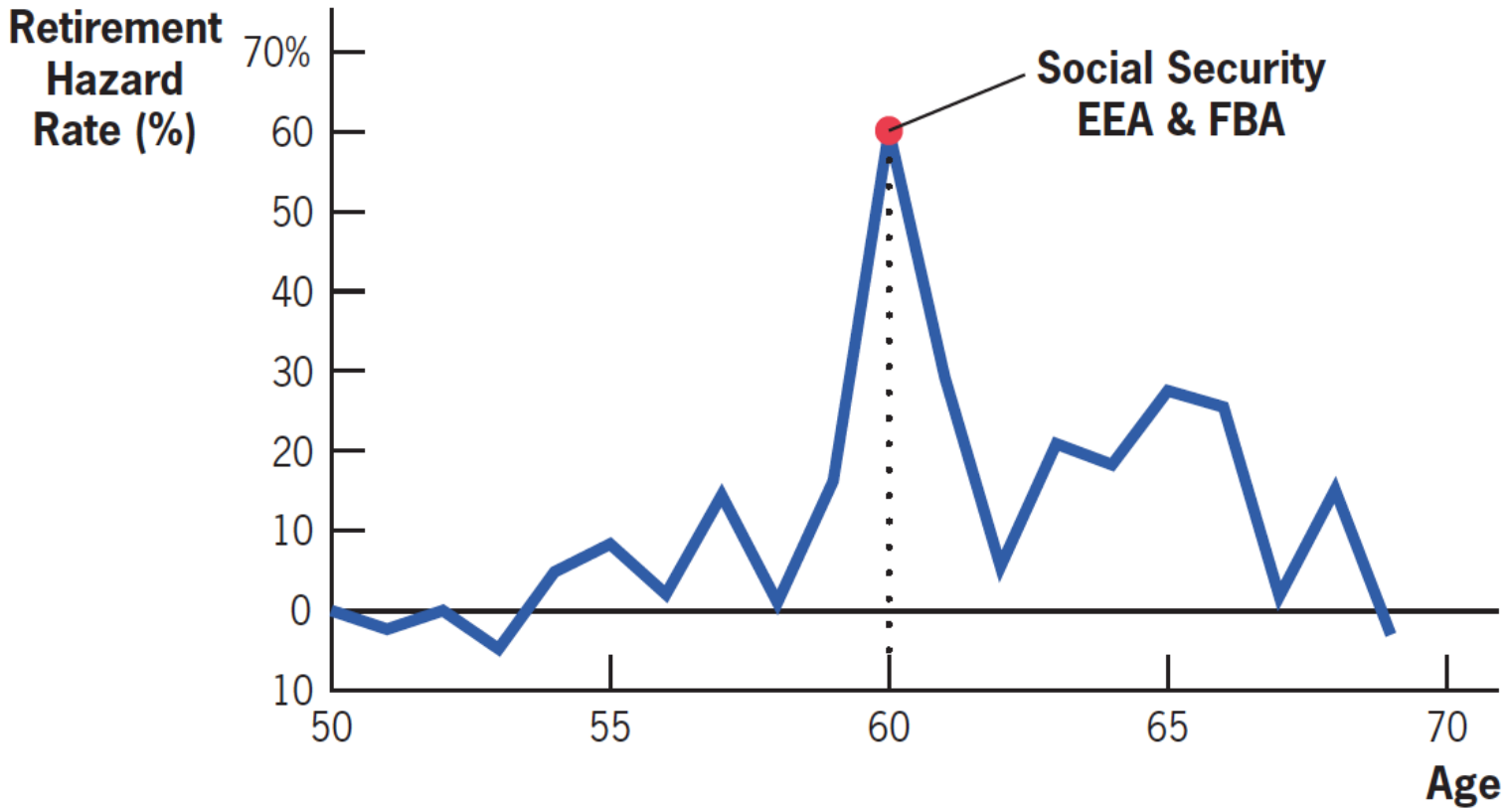
13.3

Spike in Retirement Hazard at EEA



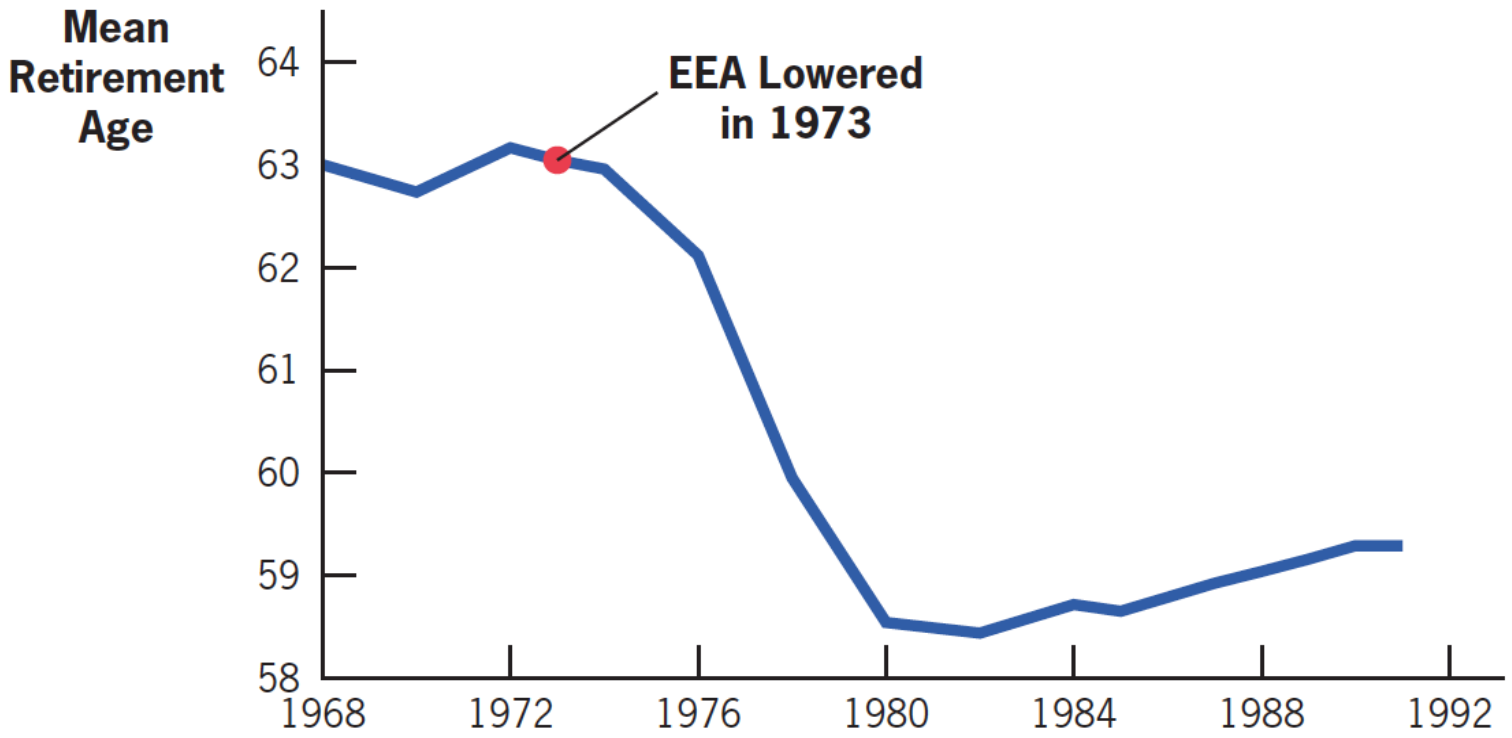
13.3

Retirement Hazard Rate in France



13.3

Evidence: Retirement Age in Germany, 1968–1992



- Retirement age lowed from 65 to 60 in 1973.

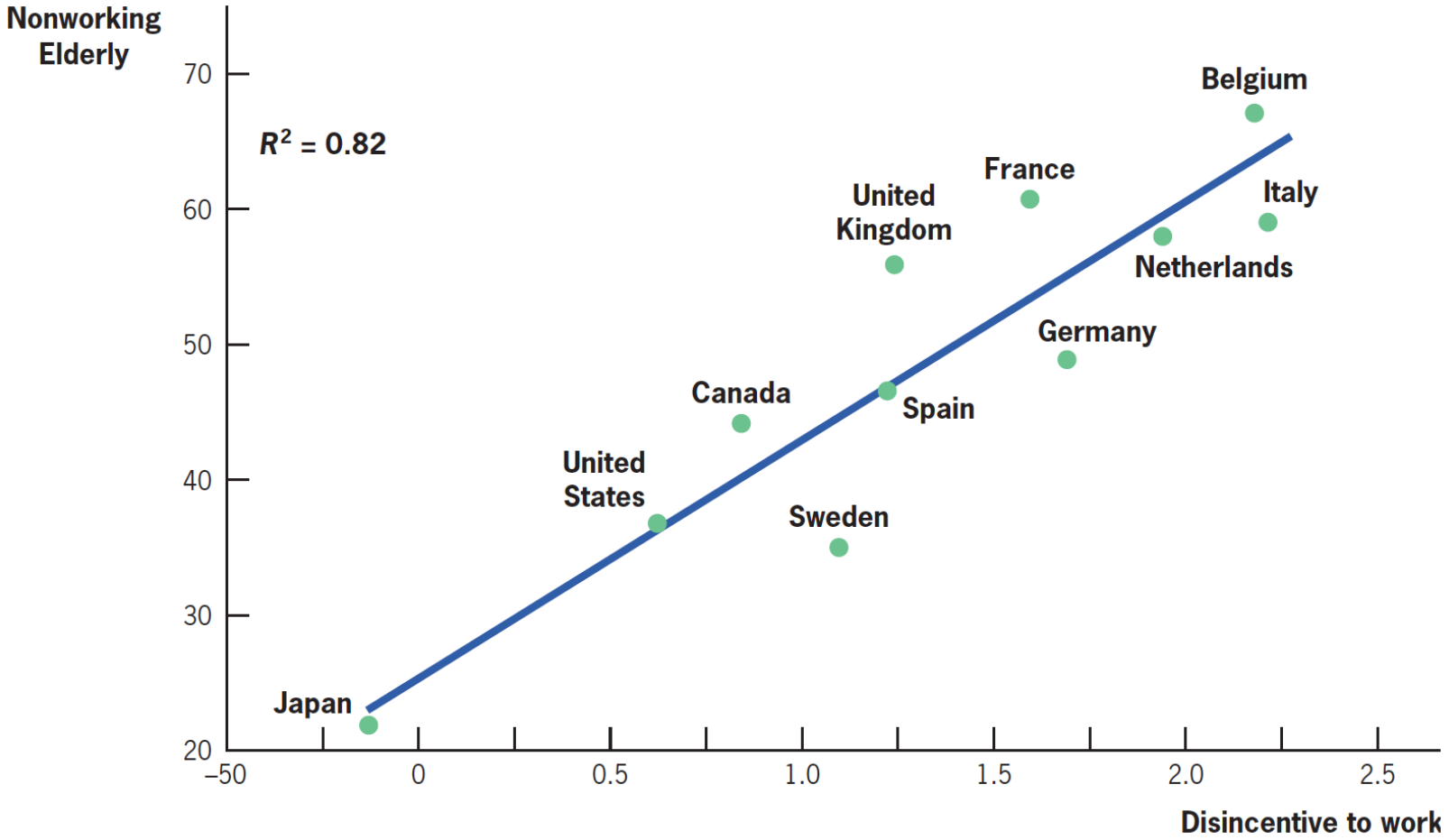
13.3

APPLICATION: Implicit Social Security Taxes and Retirement Behavior

- Gruber and Wise (1999) calculated the implicit tax from Social Security for a series of countries.
- Across countries, there is a great deal of variation in the implicit tax rate.
  - Implicit tax close to zero for 62-year-olds in the United States.
  - 91% in the Netherlands.
- And countries with higher taxes have less elderly labor force participation.

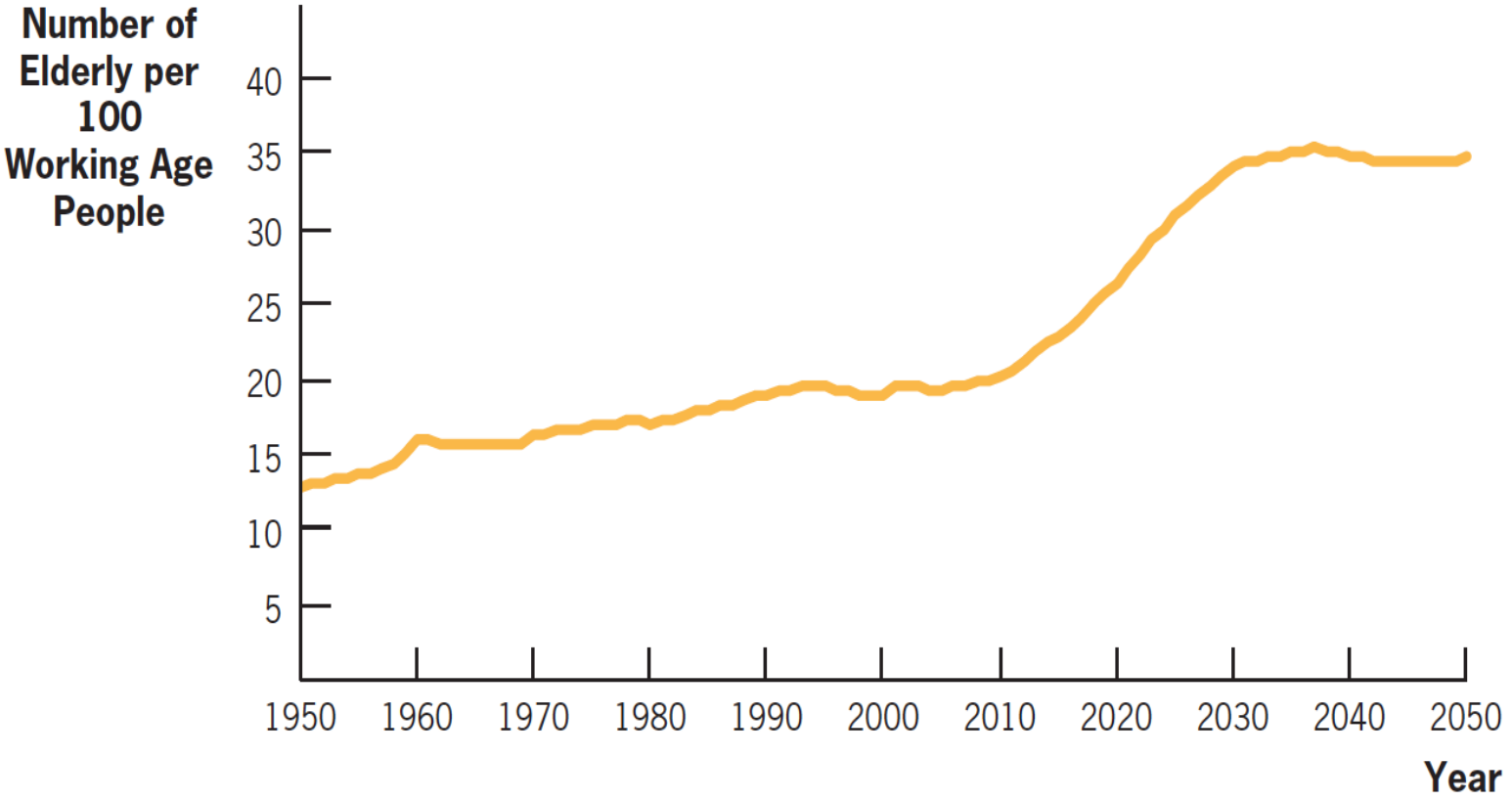
13.3

Implicit Social Security Taxes and Retirement Behavior



13.4

Social Security Reform



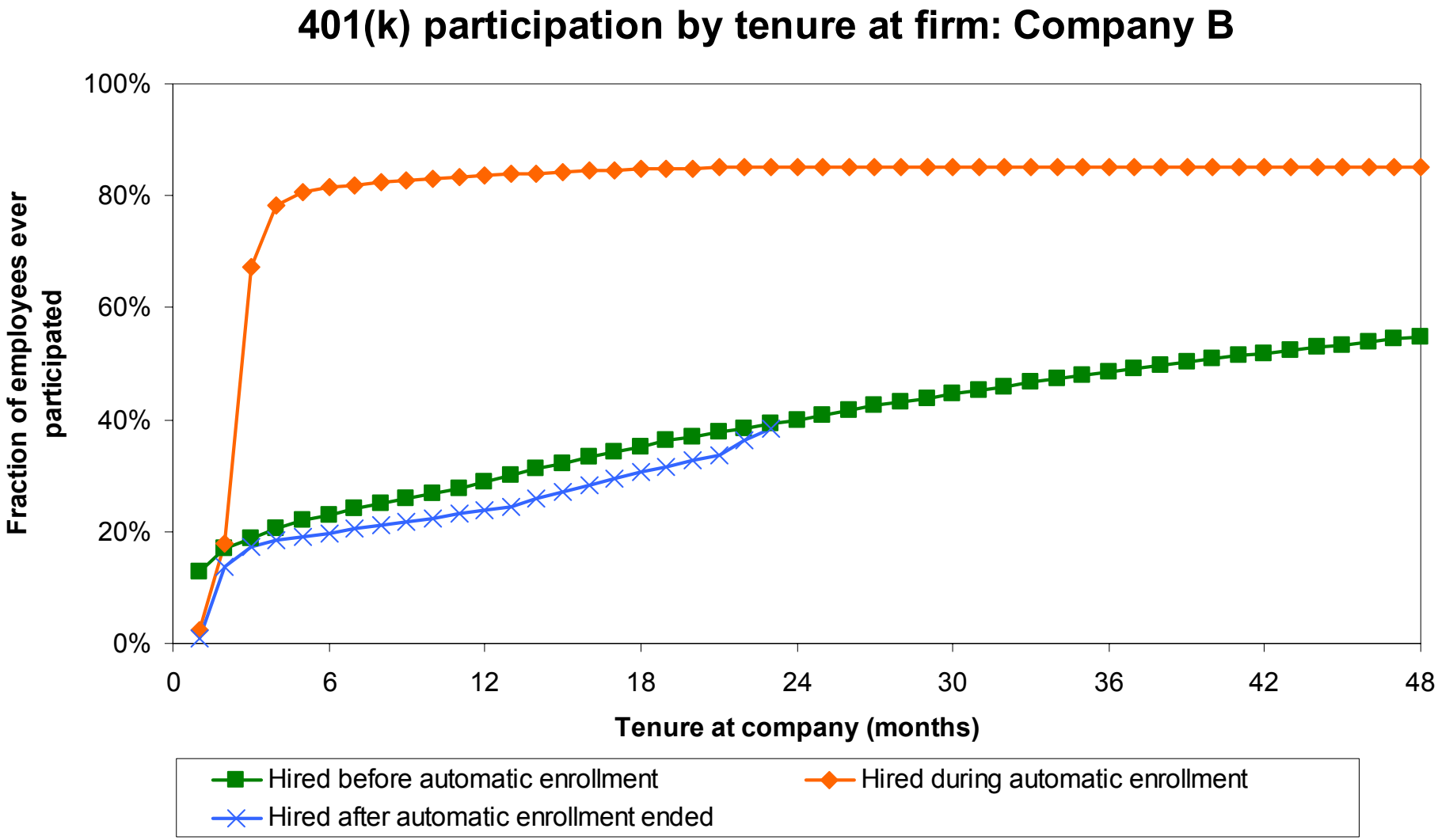
13.4

APPLICATION: The Social Security Trust Fund and National Savings

- In theory, one benefit of the partial funding of Social Security through the build-up of the trust fund is an increase in national savings.
- The trust fund is "off budget," not supposed to be part of budget discussion.
- But typically the government reports the deficit/surplus from the "unified budget," which incorporates off-budget categories.
- Makes it easy to treat trust fund as an asset, avoid fixing the deficit.

Automatic enrollment effect

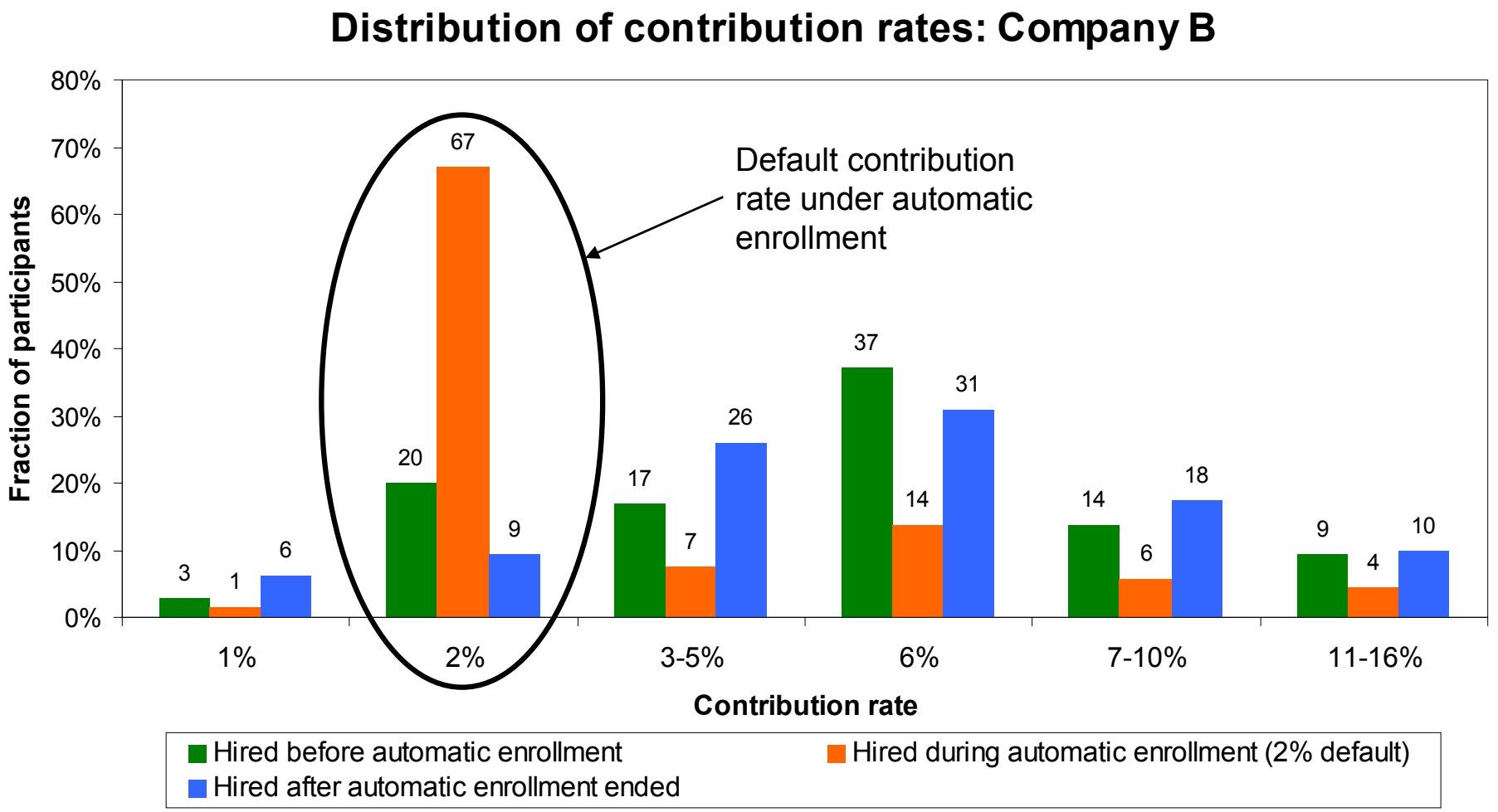
Automatic enrollment dramatically increases participation.



Source: Madrian and Shea (2001)

Automatic enrollment effect

Employees enrolled under automatic enrollment cluster at the default contribution rate.



Source: Madrian and Shea (2001)

The Flypaper Effect in Individual Investor Asset Allocation (Choi, Laibson, Madrian 2007)

Studied a firm that used several different match systems in their 401(k) plan.

I'll discuss two of those regimes today:

Match allocated to employer stock and workers can reallocate

- Call this "default" case (default is employer stock)

Match allocated to an asset actively chosen by workers; workers *required* to make an active designation.

- Call this "no default" case (workers must choose)

Economically, these two systems are identical.

They both allow workers to do whatever the worker wants.

Source: courtesy of David Laibson

Consequences of the two regimes

	Balances in employer stock	
	Default ES	No Default
Own Balance in Employer Stock	24%	20%
Matching Balance in Employer Stock	94%	27%
Total Balance in Employer Stock	56%	22%

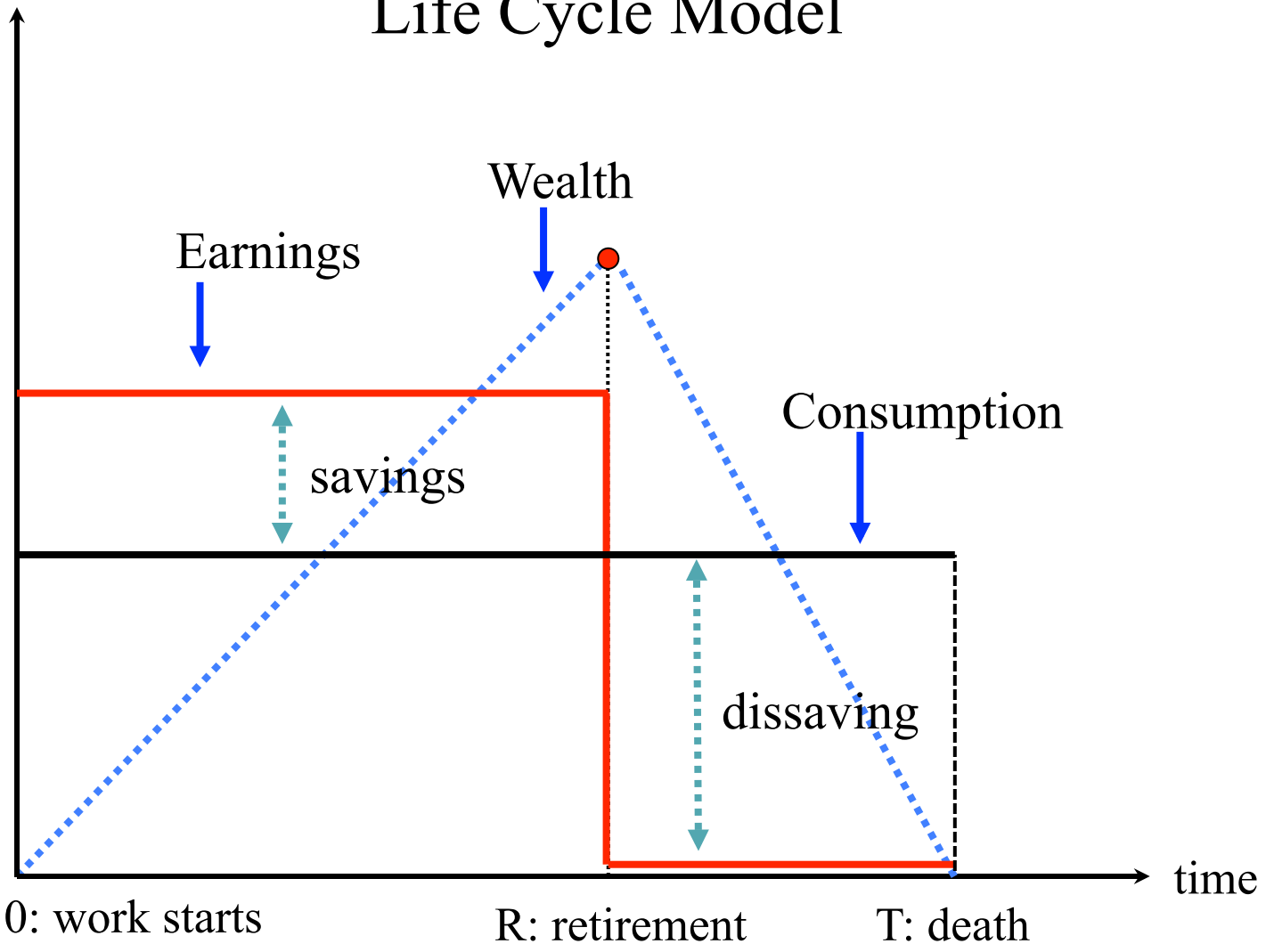
Source: courtesy of David Laibson

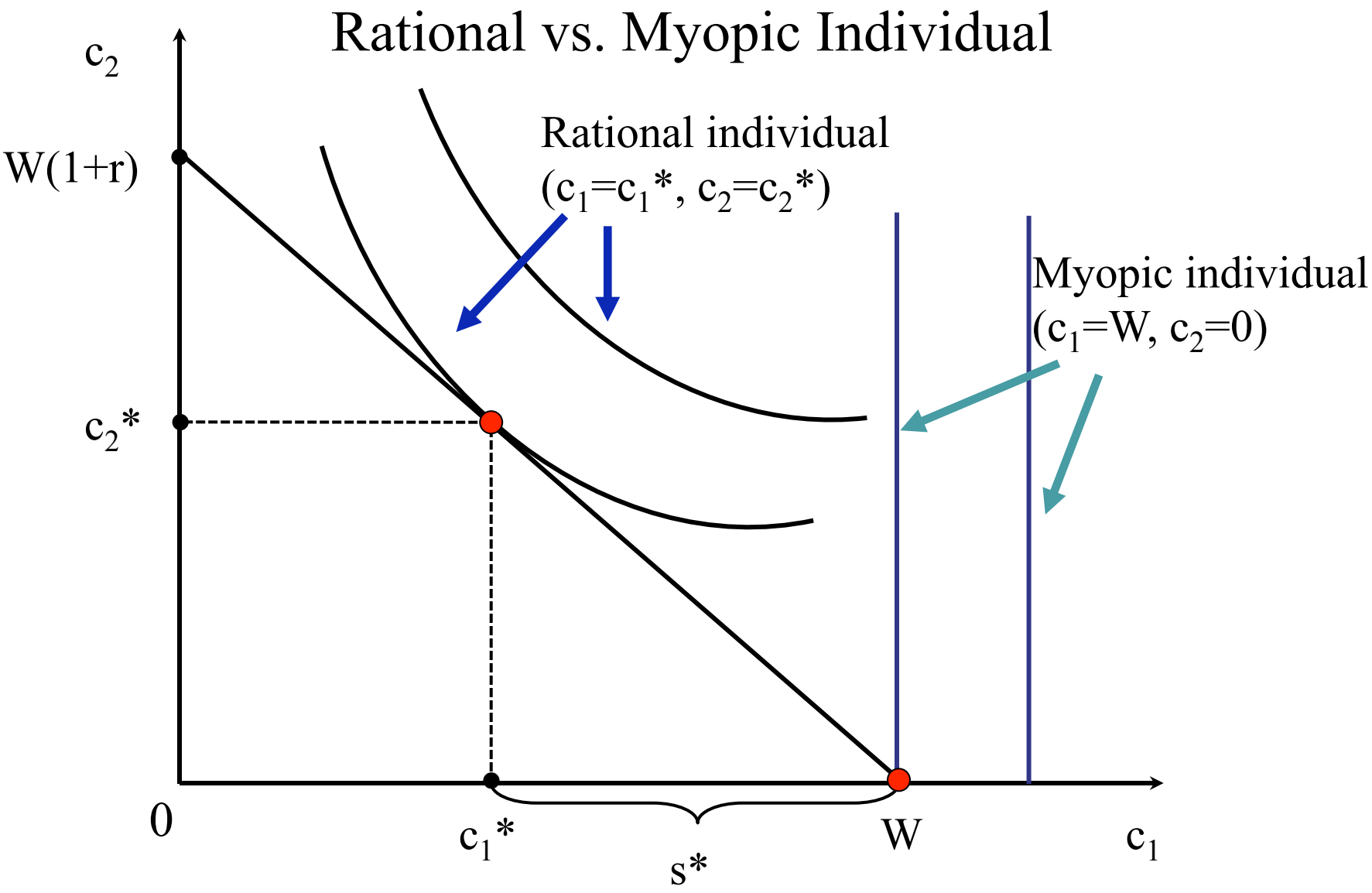
APPLICATION: Company Stock in 401(k) Plans

401(k) plans are an important feature of retirement savings in the United States.

- These plans allow individuals to save in self-directed investment choices.
- But there are several problems with them:
  - Some workers have as much as 80% of their assets in company stock.
  - If the company fails, they will lose their job *and* their savings.

Life Cycle Model




Rational vs. Myopic Individual
c2
W(1+r)
c2*
Rational individual
(c1=c1*, c2=c2*)
Myopic individual
(c1=W, c2=0)
0
c1*
s*
W
c1

Adding forced savings τ=s*

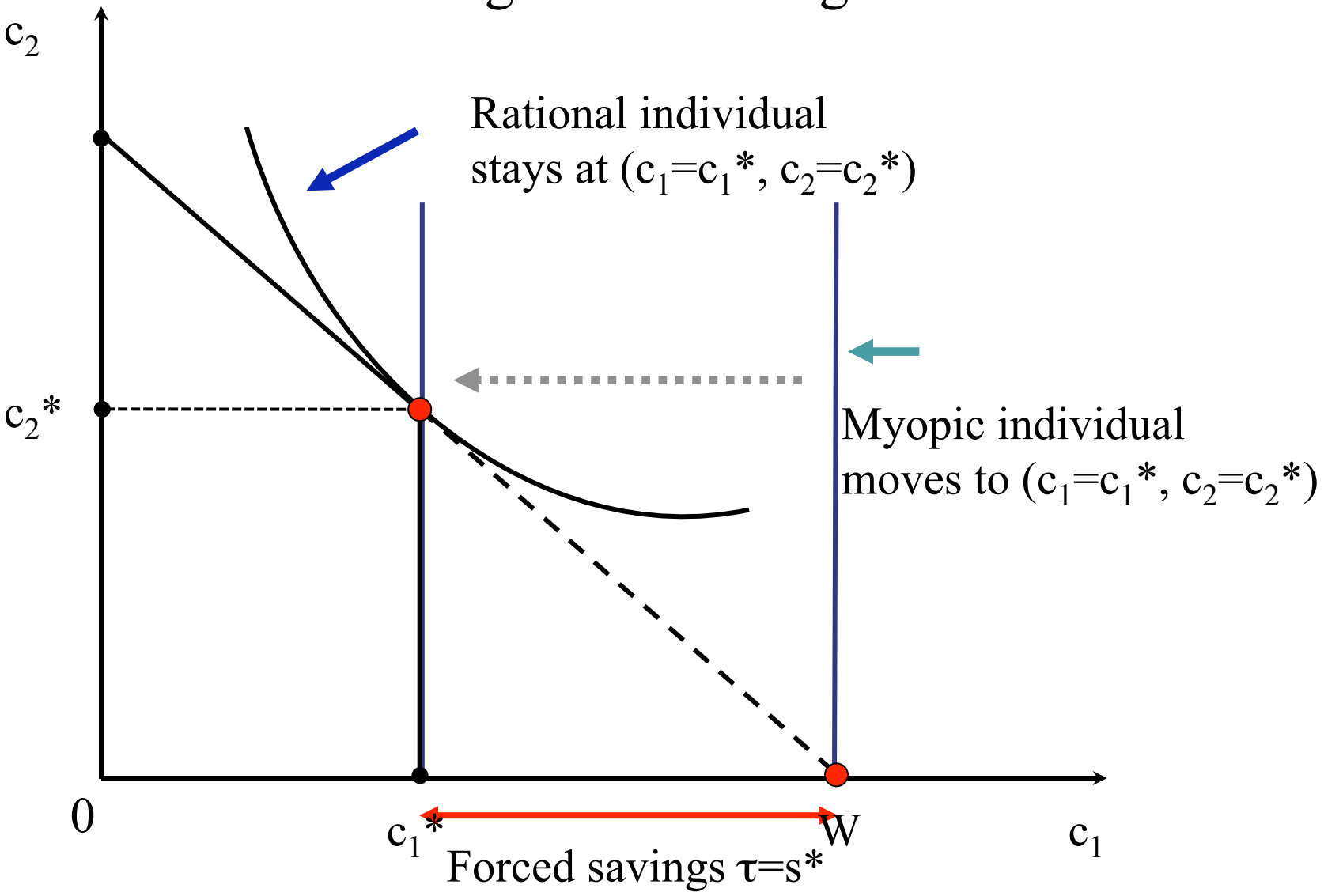
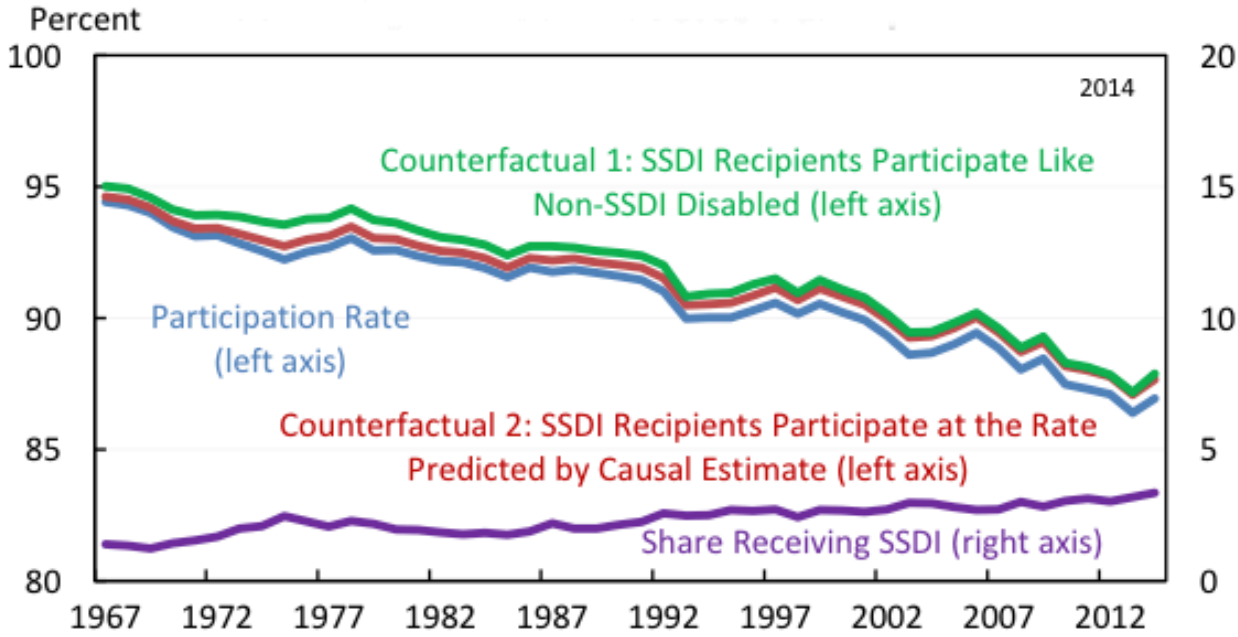


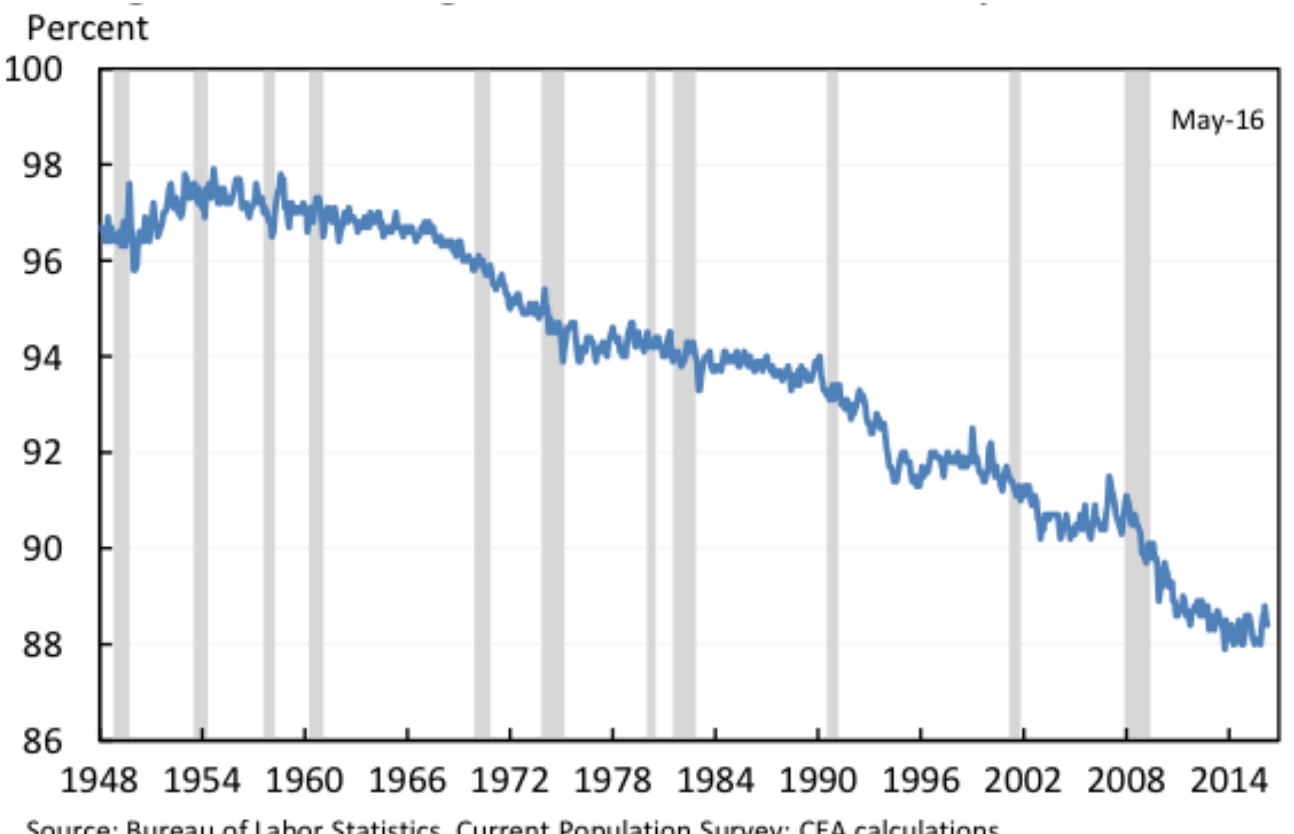
Figure 6. Possible effects of disability on prime-age male labour force participation



Note: Green line participation rate pre-1988 is a linear projection based on the post-1988 series due to a lack of data identifying the disabled before 1988. Participation rates for non-SSDI recipient disabled are age-adjusted using a linear probability model. Red counterfactual based on French and Song (2014).
Source: Bureau of Labor Statistics, Current Population Survey (Annual Social and Economic Supplement); CEA calculations.

Source: Black, Furman, Rackstraw, Rao (2016)

Figure 1. Prime-age male labour force participation rate



Source: Black, Furman, Rackstraw, Rao (2016)

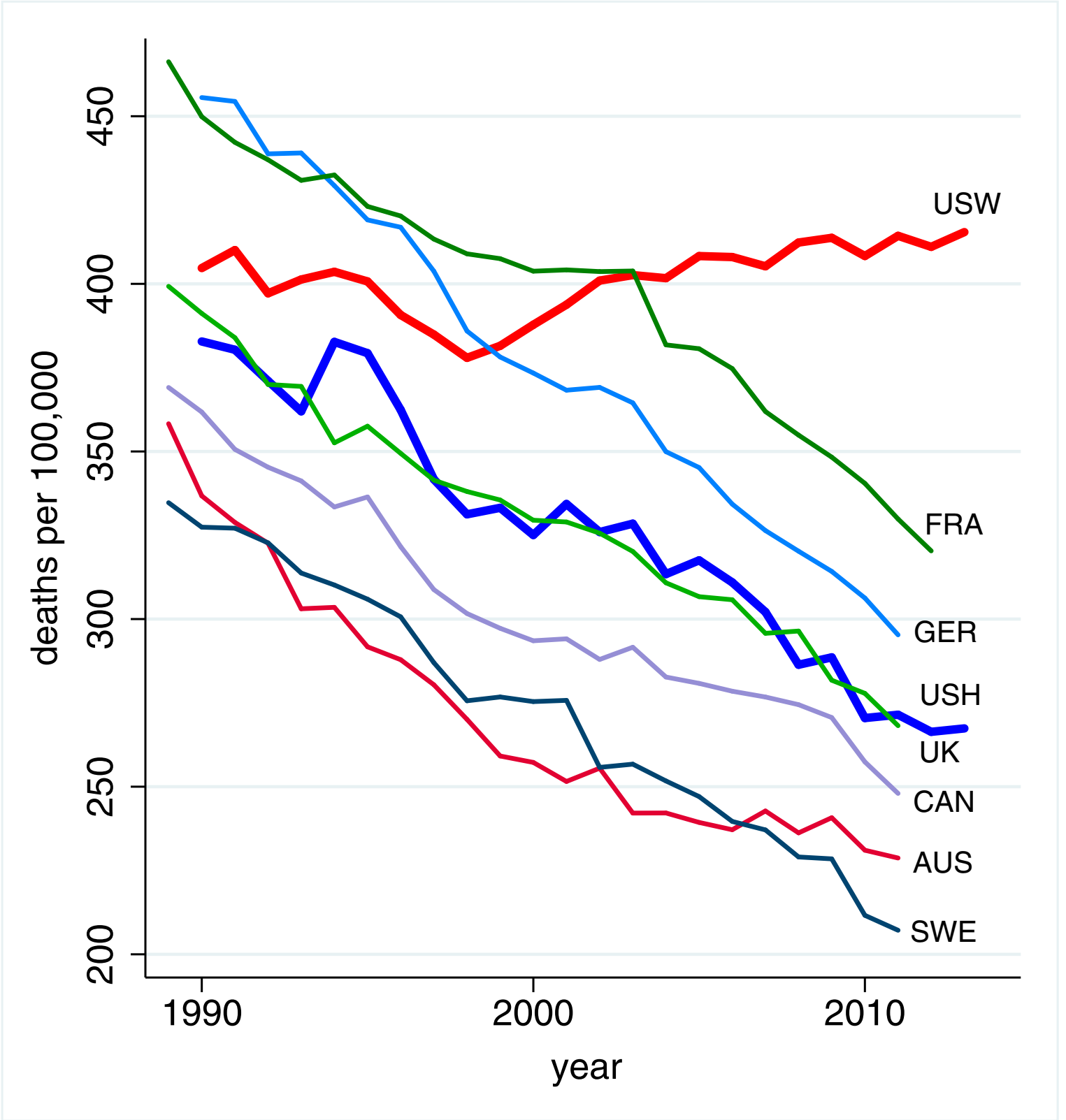
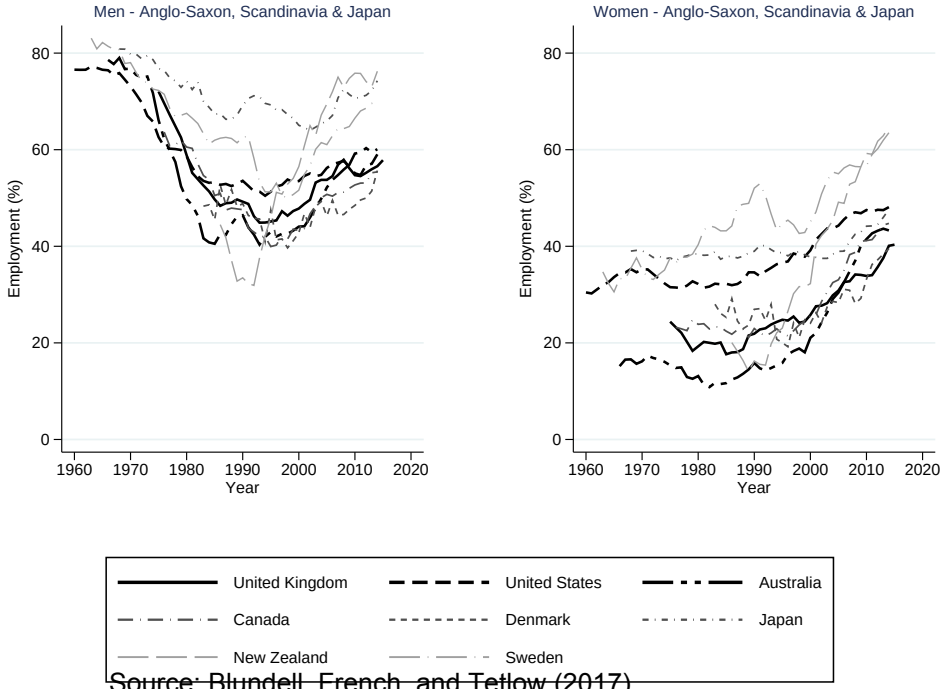


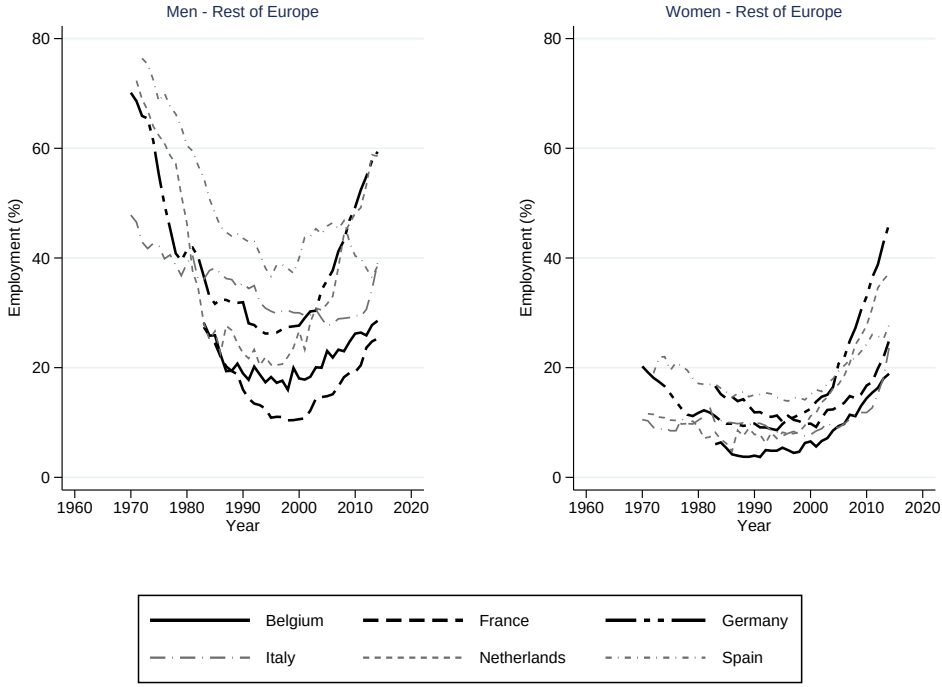
Fig. 1. All-cause mortality, ages 45–54 for US White non-Hispanics (USW), US Hispanics (USH), and six comparison countries: France (FRA), Germany (GER), the United Kingdom (UK), Canada (CAN), Australia (AUS), and Sweden (SWE).

Source: Case and Deaton (2015)

Figure 2.2: Employment of those aged 60–64

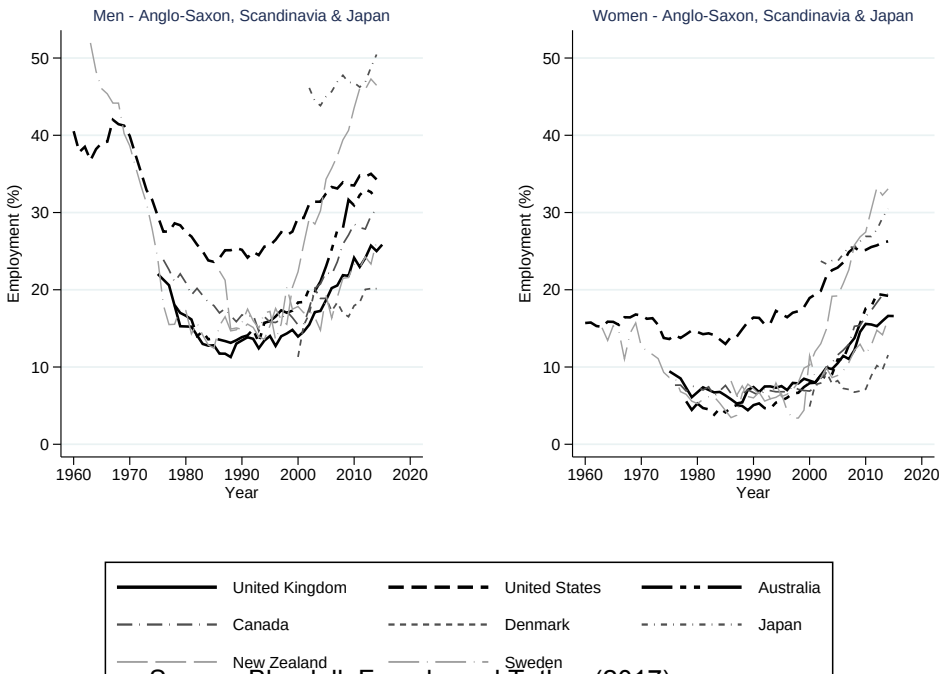


Source: Blundell, French, and Tetlow (2017)

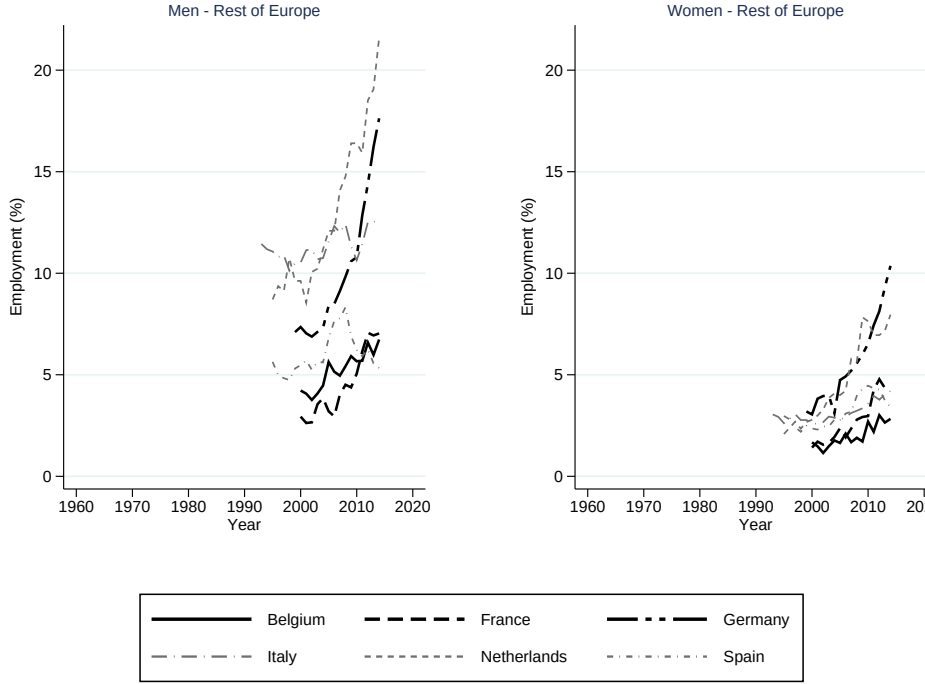


Source: Blundell, French, and Tetlow (2017)

Figure 2.3: Employment of those aged 65–69

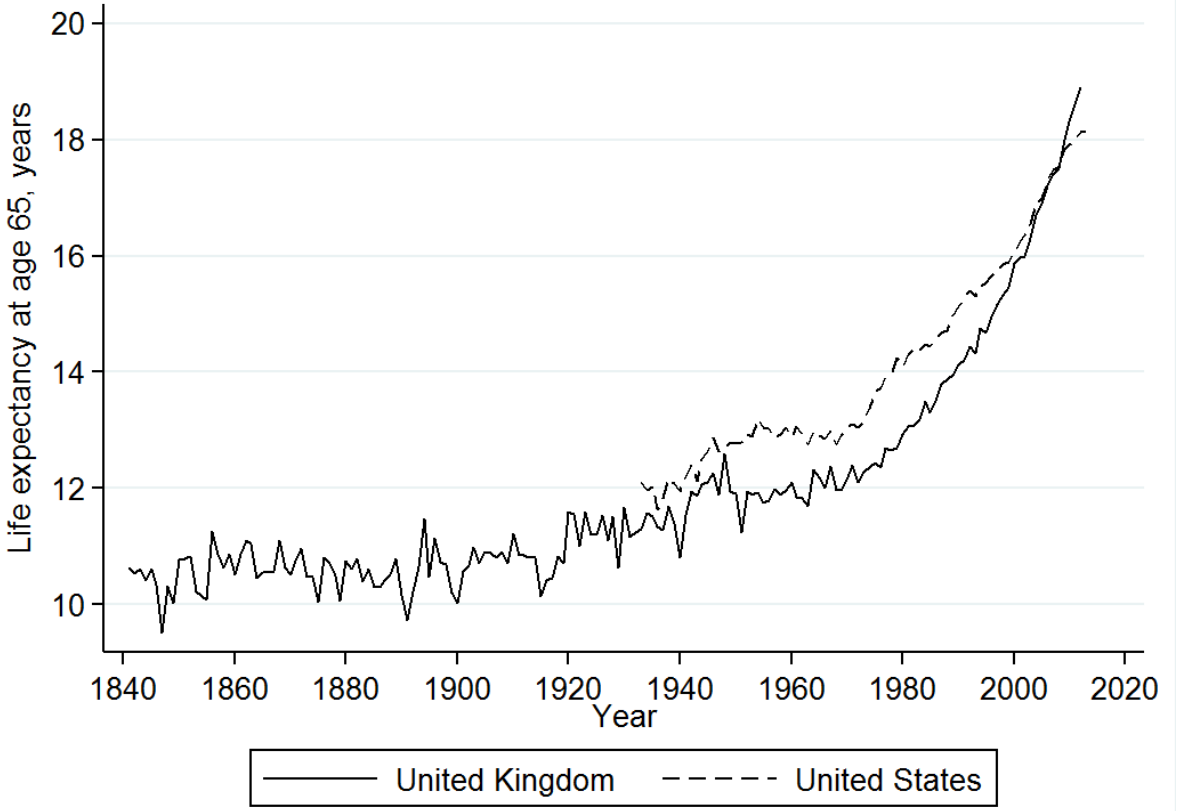


Source: Blundell, French, and Tetlow (2017)



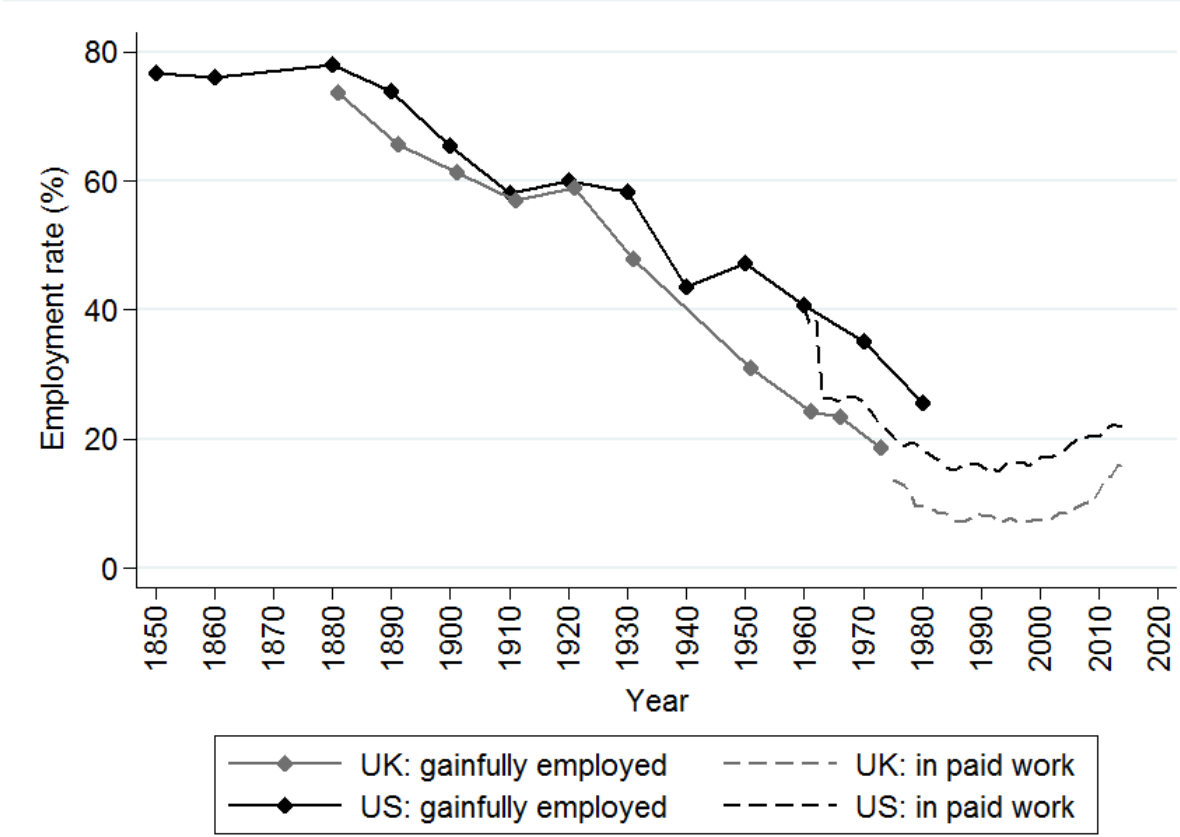
Source: Blundell, French, and Tetlow (2017)

Figure 2.7: Life expectancy of men at age 65 in the UK and the US

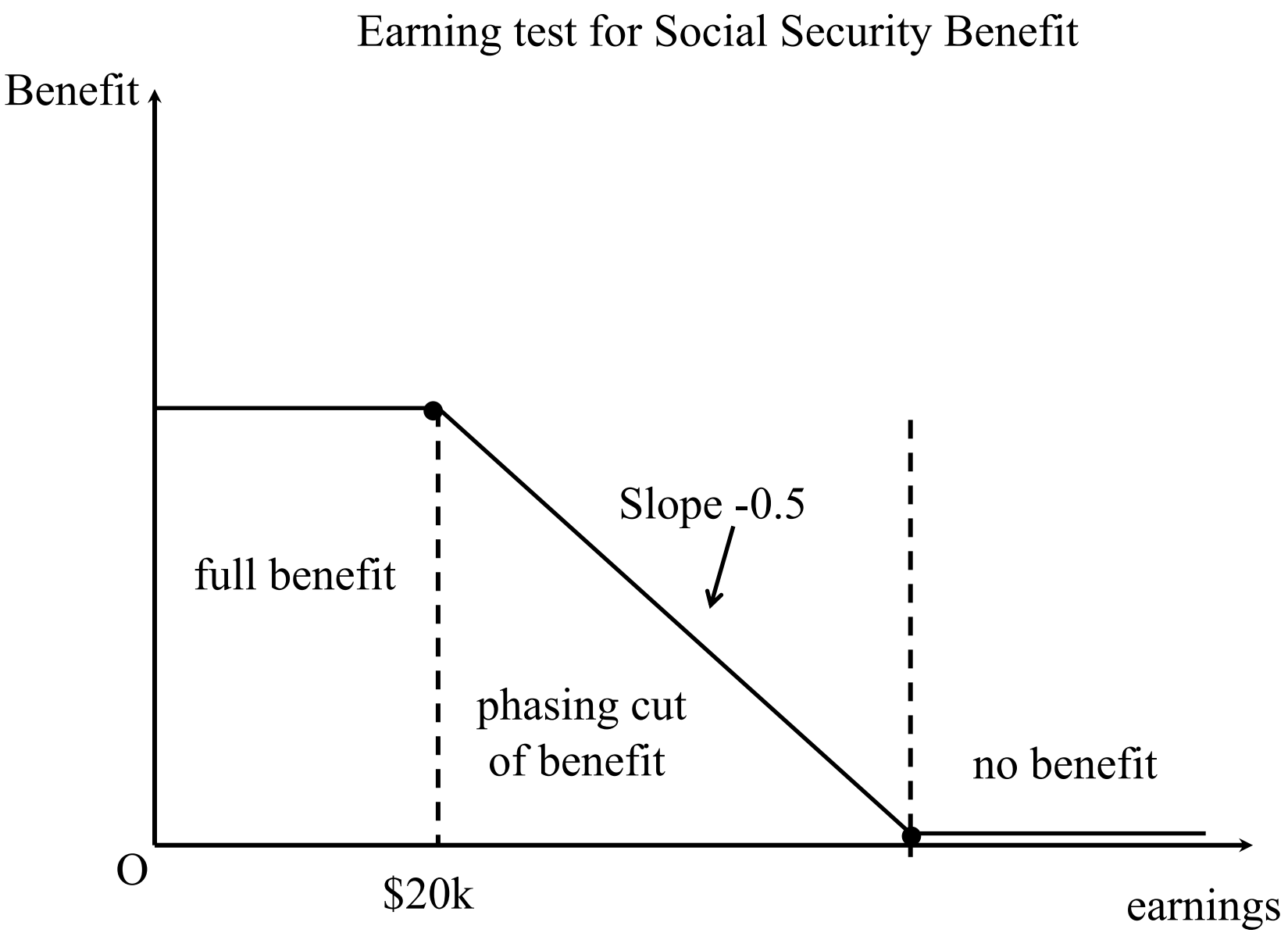


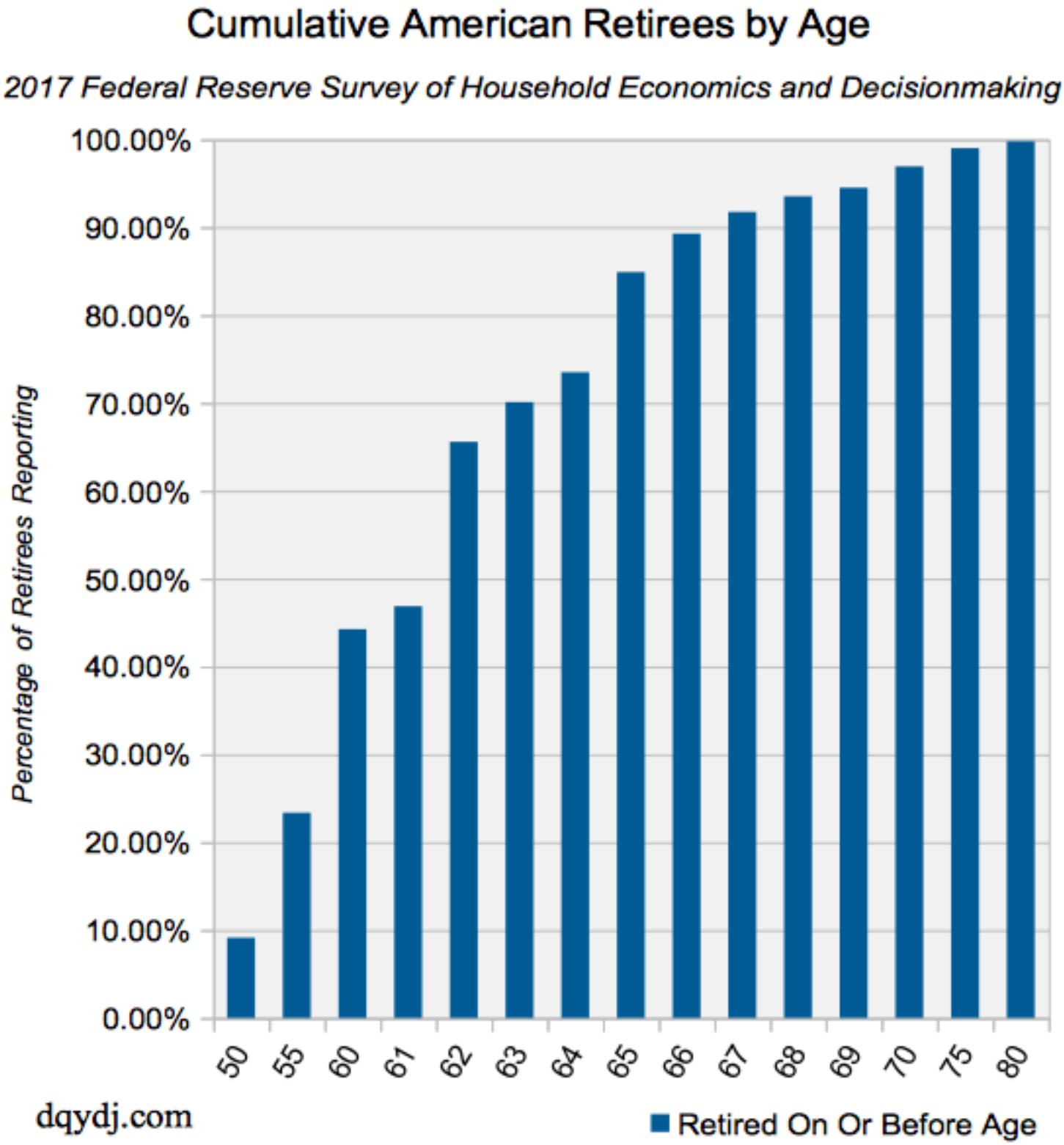
Source: UK data from the Office for National Statistics, US data from the Human Mortality Database.
Source: Blundell, French, and Tetlow (2017)

Figure 2.6: Employment rate of men aged 65+ in the UK and the US



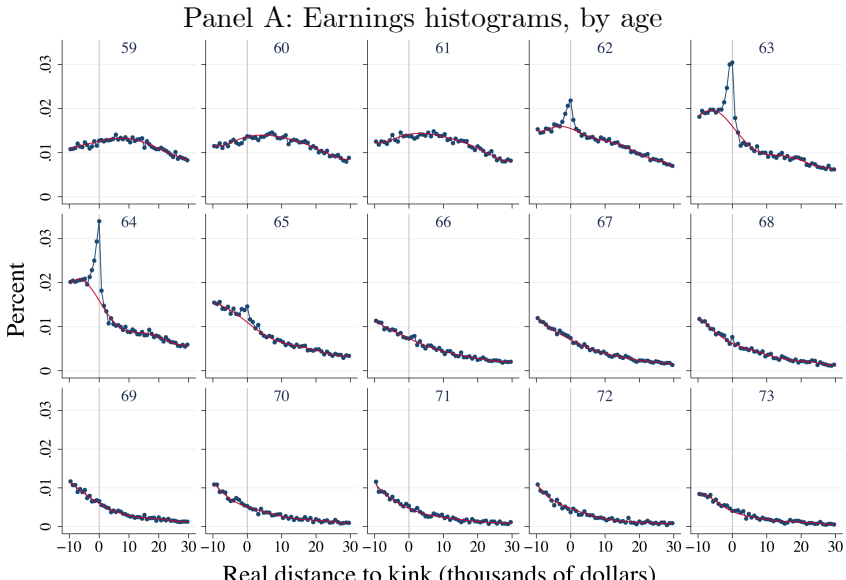
Source: Blundell, French, and Tetlow (2017)

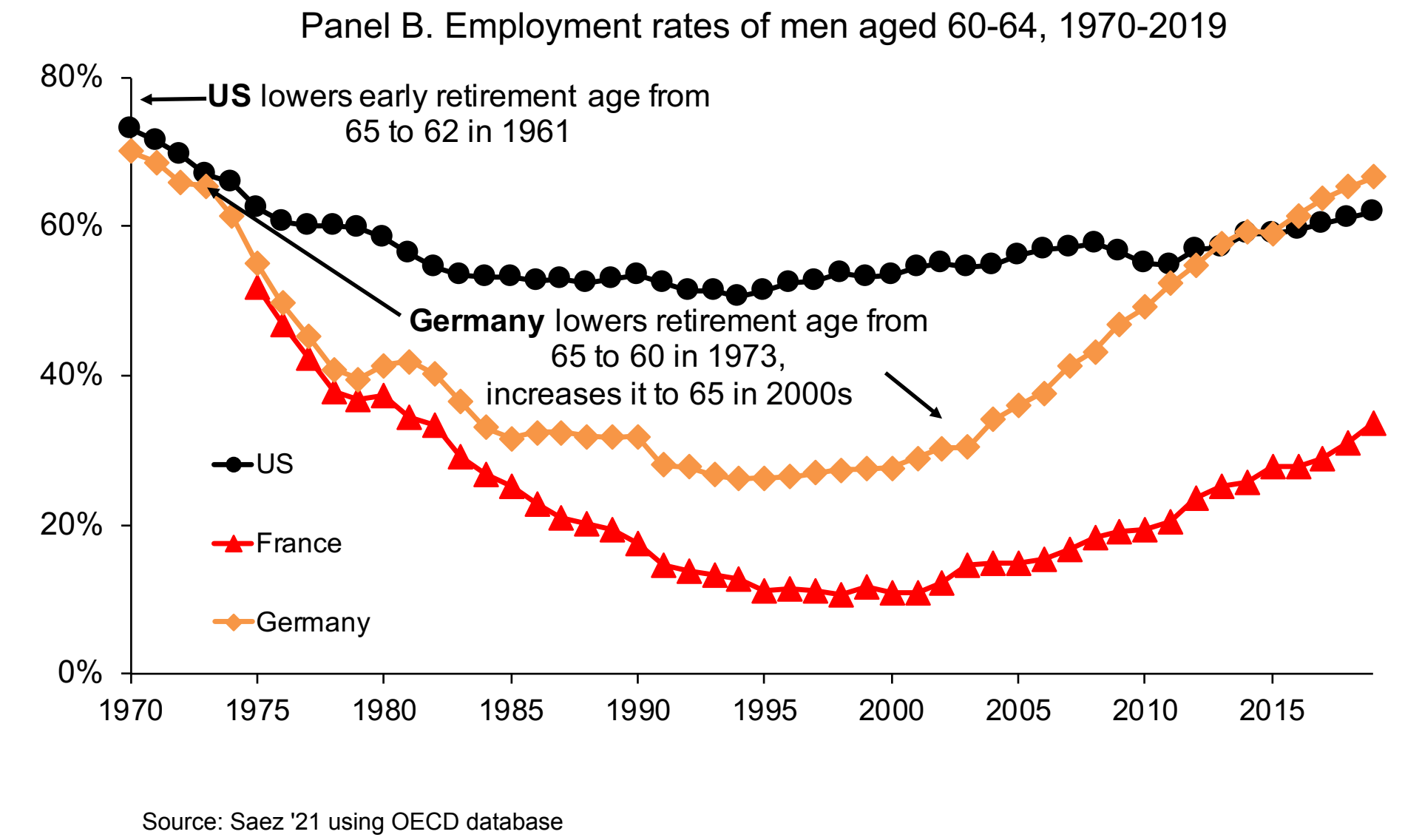

Earning test for Social Security Benefit
Benefit
full benefit
Slope -0.5
phasing cut
of benefit
no benefit
O
$20k
earnings


Cumulative American Retirees by Age
2017 Federal Reserve Survey of Household Economics and Decisionmaking
Percentage of Retirees Reporting
100.00%
90.00%
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
50
55
60
61
62
63
64
65
66
67
68
69
70
75
80
dqydj.com
Retired On Or Before Age

Source: Gelber, Jones, Sacks (2013)

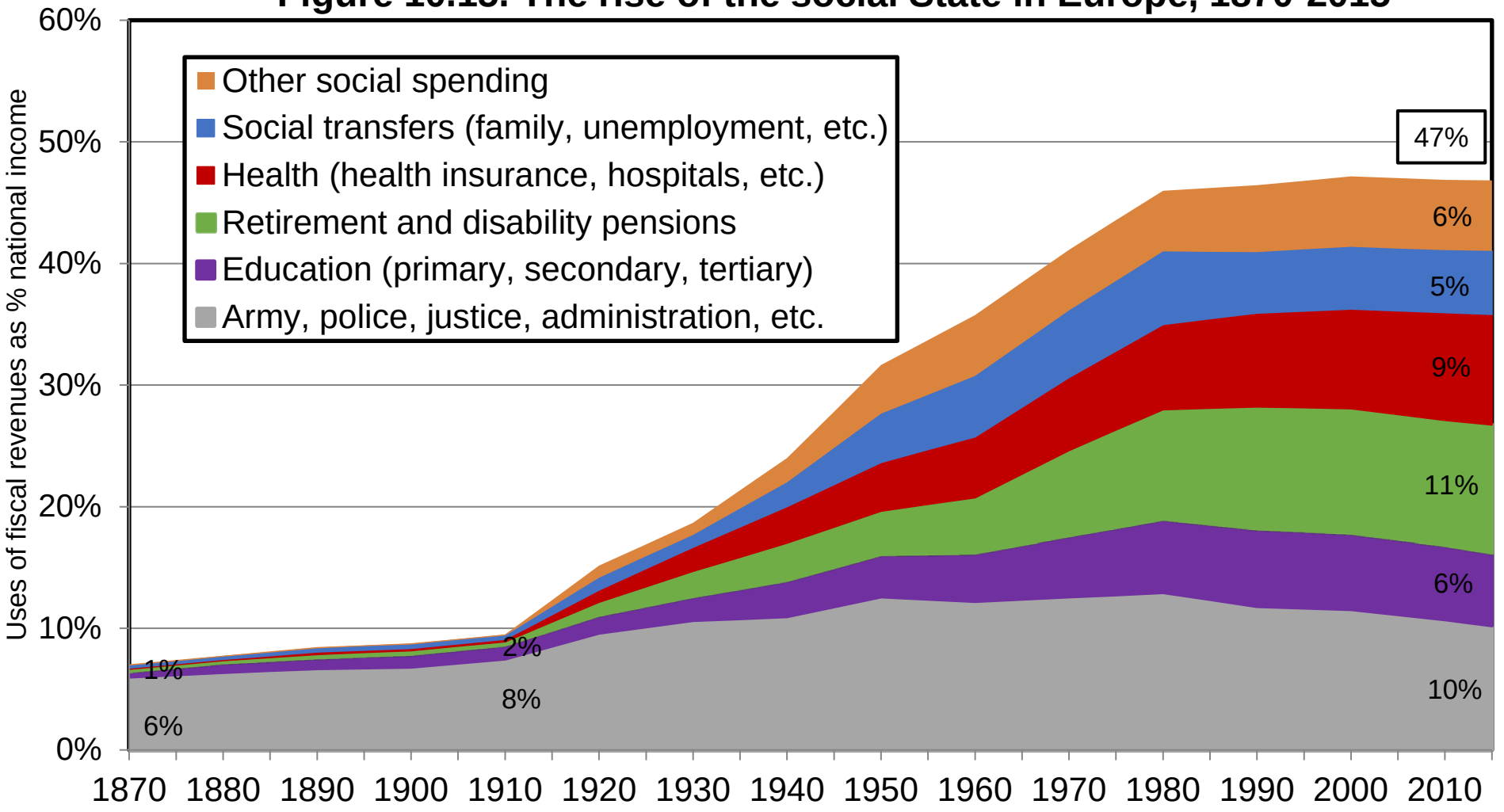
Figure E.6: Adjustment Across Ages: Histograms of Earnings and Normalized Excess Mass, 59-73-year-olds Claiming OASI by Age 65, 2000-2006





Source: Saez '21 using OECD database

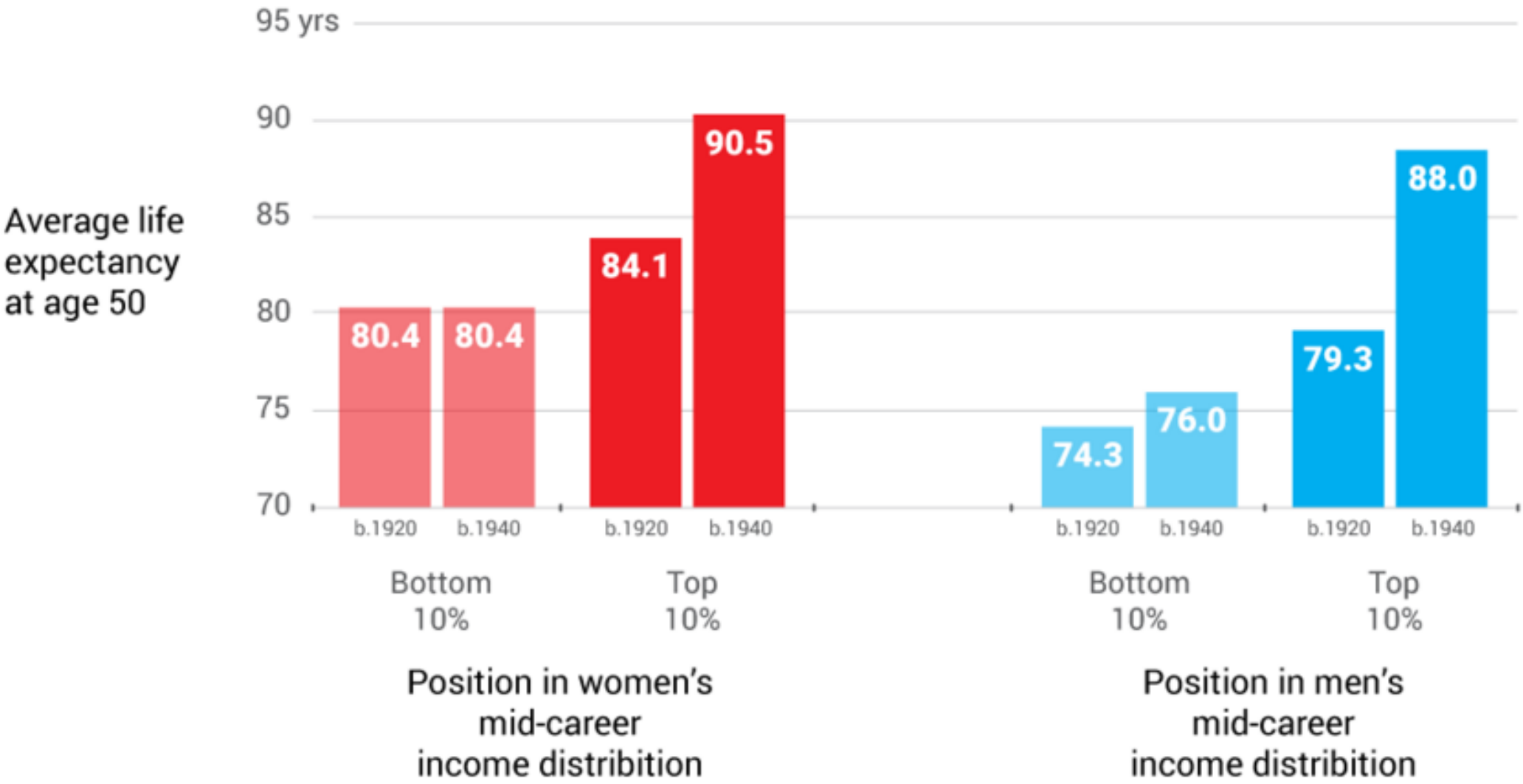
Figure 10.15. The rise of the social State in Europe, 1870-2015



Interpretation. In 2015, fiscal revenues represented 47% of national income on average in Western Europe et were used as follows: 10% of national income for regalian expenditure (army, police, justice, general administration, basic infrastructure: roads, etc.); 6% for education; 11% for pensions; 9% for health; 5% for social transfers (other than pensions); 6% for other social spending (housing, etc.). Before 1914, regalian expenditure absorbed almost all fiscal revenues. **Note.** The evolution depicted here is the average of Germany, France, Britain and Sweden (see figure 10.14). Sources and séries: see piketty.pse.ens.fr/ideology.

Americans making more money are living longer than those earning less

This means gaps in life expectancy by income have grown over time.



Source: Bosworth et al. 2016

Adjustments to Social Security Benefits based on claiming age

Table 1: Initial Benefits Based on Initiation Age

Age	Benefits
62	$700
63	$750
64	$800
65	$867
66	$933
67	$1,000
68	$1,080
69	$1,160
70	$1,240

Note: $1,000 is the monthly base at a full retirement age of 67.