Optimal Retirement Age

Jonathan (Jon) Barry Forman
Alfred P. Murrah Professor of Law
University of Oklahoma

Yung-Ping (Bing) Chen
Frank J. Manning Eminent Scholar's Chair in Gerontology
University of Massachusetts Boston

Abstract

What is the optimal retirement age? This paper looks at the optimal retirement age from various perspectives. Most of the current pension laws relating to retirement age were codified decades ago, and they have become badly out of date given what we now know about longevity, about health and work in old age and about how pension policies influence retirement decisions. This paper provides some background about demography, health and retirement; summarizes how current pension laws influence the design of pension plans and the timing of retirement; and looks at the optimal retirement age from the perspective of employers, government and workers. This paper then offers some new perspectives on the relationship between demography and retirement age; discusses the implications for public policy; and offers recommendations about how to reform our pension laws so that pension plans comport with our ideas about optimal retirement age.

1.   Introduction

What is the optimal retirement age? This paper looks at the optimal retirement age from various perspectives. Most of the current pension laws relating to retirement age were codified decades ago, and we believe that they have become badly out of date given what we now know about longevity, about health and work in old age and about how pension policies influence retirement decisions. Finally, we offer recommendations about how to reform our pension laws so that pension plans comport with our ideas about optimal retirement age.

We have both long believed that Americans generally retire too early.[1] We are certainly not alone in that belief. These days, newspapers,[2] as well as academics,[3]

---

[1] See, e.g., Yung-Ping Chen, *Making Assets Out of Tomorrow's Elderly*, 27(4) THE GERONTOLOGIST 410-416 (1987); Jonathan Barry Forman, *Making Pensions Work*, in NEW YORK UNIVERSITY REVIEW OF EMPLOYEE BENEFITS AND COMPENSATION–2004, Chapter 5 (Alvin D. Lurie ed., 2004).

[2] See, e.g., Paul B. Brown, *To Retire Better Off, Wait a Bit*, NEW YORK TIMES, nytimes.com, February 16, 2008; Selena Maranjian, *Don't You Dare Retire Early*, THE MOTLEY FOOL, Fool.com, April 26, 2008.

[3] See, e.g., Barbara Butricia, Karen E. Smith and C. Eugene Steuerle, *Working for a Good Retirement* (Washington, D.C.: Urban Institute, Retirement Project Discussion Paper No. 06-03, 2006); Alicia H. Munnell and Steven Sass, WORKING LONGER: THE SOLUTION TO THE RETIREMENT INCOME CHALLENGE (Washington, D.C.: Urban Institute Press 2008).

counsel older workers to wait longer to retire, and there is no question that working longer can improve the financial situation of most older Americans.

We think that the minimum age for drawing pension benefits without penalty should be raised from its current age 59½ to at least age 62, the age of earliest eligibility for Social Security benefits. We would also raise the normal retirement age from its current age 65 to age 67, the forthcoming age of eligibility for full benefits under Social Security. And we would index both for future improvements in longevity. Beyond raising the earliest and normal retirement ages for pensions, we believe that, at worst, pension plans should be neutral about the timing of retirement—as opposed to being allowed to provide financial incentives to push people into early retirement. At best, pension plans should be designed to encourage people to keep working as long as they can and want to.

At the outset, Section 2 of this paper provides some background about demography, health and retirement. Section 3 summarizes how current pension laws influence the design of pension plans and the timing of retirement. Section 4 looks at the optimal retirement age from the perspectives of employers, government and workers. Section 5 then offers some new perspectives on the relationship between demography and retirement age, and Section 6 discusses the implications for public policy.

2.   The Basics of Demography, Health and Retirement
a.   Americans Are Living Longer

An important demographic trend is that Americans are living longer. For example, Table 1 shows that the life expectancy for a male born in 2007 was 75.2 years, up from just 61.4 years in 1940, and the average life expectancy for a 65-year-old male in 2007 was 16.7 years, up from just 11.9 years in 1940. Figure 1 shows greater detail about how life expectancies for men have changed at various ages from 1900 until 2100, and women have shown a similar improvement.[4]

---

[4] Life expectancy also varies by socioeconomic factors, such as race and educational level. See, e.g., Congressional Budget Office, *Growing Disparities in Life Expectancy* (2008).

Table 1. Life Expectancy for Men and Women, 1940–2080

Year	Life expectancy at birth		Life expectancy at age 65	
	Male	Female	Male	Female
Actual				
1940	61.4	65.7	11.9	13.4
1960	66.7	73.2	12.9	15.9
1980	69.9	77.5	14.0	18.4
2000	74.0	79.4	15.9	19.0
2007	75.2	79.9	16.7	19.2
Projected				
2020	76.9	80.9	17.6	19.8
2040	79.0	82.6	18.8	20.9
2060	80.8	84.2	19.8	21.9
2080	82.4	85.6	20.8	22.8

Note: The period life expectancy at a given age for a given year represents the average number of years of life remaining if a group of persons at that age were to experience the mortality rates for that year over the course of their remaining lives.

Source: Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, 2008 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND FEDERAL DISABILITY INSURANCE TRUST FUNDS (Washington, D.C.: U.S. Government Printing Office 2008), table V.A3.

**Figure 1. Remaining Life Expectancies for Males at Various Ages, by Cohorts
from 1900 to 2100**
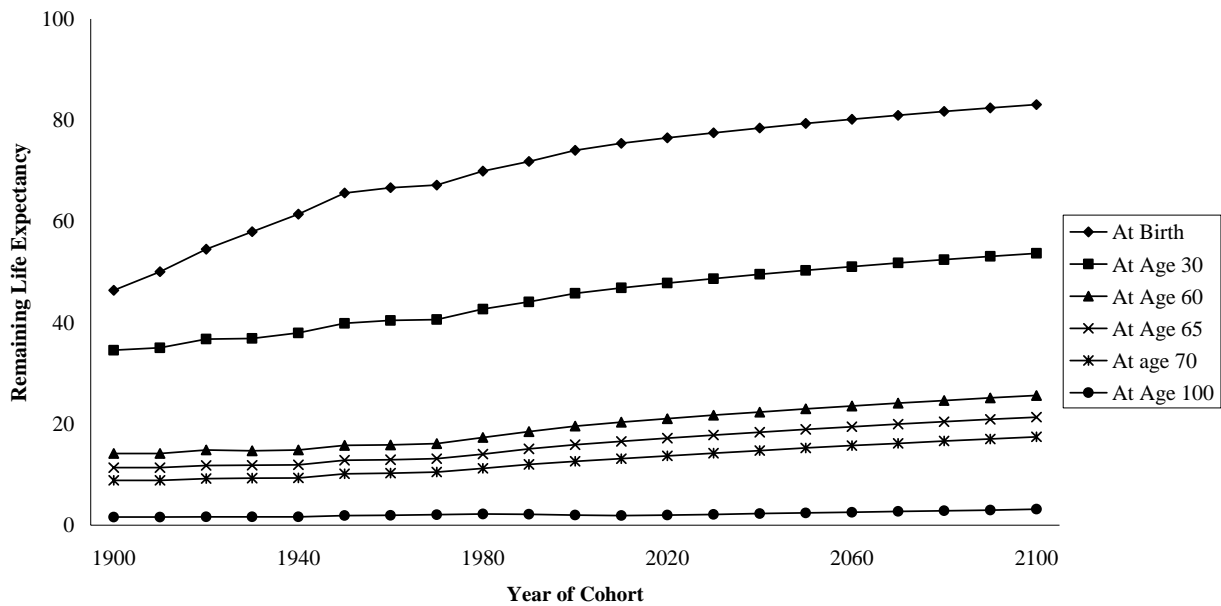
Source: Felicitie C. Bell and Michael L. Miller, *Life Tables for the United States Social Security Area 1900-2100* (Social Security Administration, Office of the Chief Actuary, Actuarial Study No. 120, 2005), table 10.

b.   The Timing of Retirement Is Changing

Despite the fact that life expectancies went up throughout the 20th century, there was a trend toward earlier and earlier retirements until around 1985. For example, Table 2 shows that the average age at which workers begin receiving their Social Security retirement benefits fell dramatically from 65.9 years old in 1965 to 63.6 years old in 1985, about where it is today.[5]

---

[5] See also Murray Gendell, *Older workers: increasing their labor force participation and hours of work*, 131(1) MONTHLY LABOR REVIEW 41-54, 51 (table 10) (January 2008). But see Dan Muldoon and Richard Kopcke, *Are People Claiming Social Security Benefits Later?* (Boston, MA: Center for Retirement Research at Boston College, Issue in Brief No. 8-7, 2008) (showing that the share of workers claiming benefit awards at age 62 is starting to fall, with just 56 percent of women and 52 percent of men claiming benefits at 62 in 2006).

**Table 2. Percentage of Workers Electing Social Security Retirement Benefits at Various Ages, Selected Years**

Year	Age 62	Ages 63–64	Age 65	Ages 66+	Average age
1965	23.0	17.7	23.4	35.9	65.9
1975	35.7	24.5	31.1	8.7	63.9
1985	57.2	21.1	17.7	4.0	63.6
1995	58.3	19.5	16.3	6.0	63.6
2004	57.5	19.0	18.6	4.8	63.7

Source: Gayle L. Reznick, Dave Shoffner, and David A. Weaver, *Coping with the Demographic Challenge: Fewer Children and Living Longer*, 66(4) SOCIAL SECURITY BULLETIN 37-45 (2005/2006), table 4.

Similarly, Figure 2 shows that the overall labor force participation rates for men over age 55 and for men over age 65 fell dramatically from 1950 to the mid-1980s and have increased modestly since then. In that regard, Figure 3 provides even more detail about the recent increases in the labor force participation rates of older men. The Bureau of Labor Statistics projects that labor force participation rates of older men will continue to increase modestly throughout the coming decade.[6] Still, the labor force participation rates of older men (and women) are about half of those of prime-age workers.
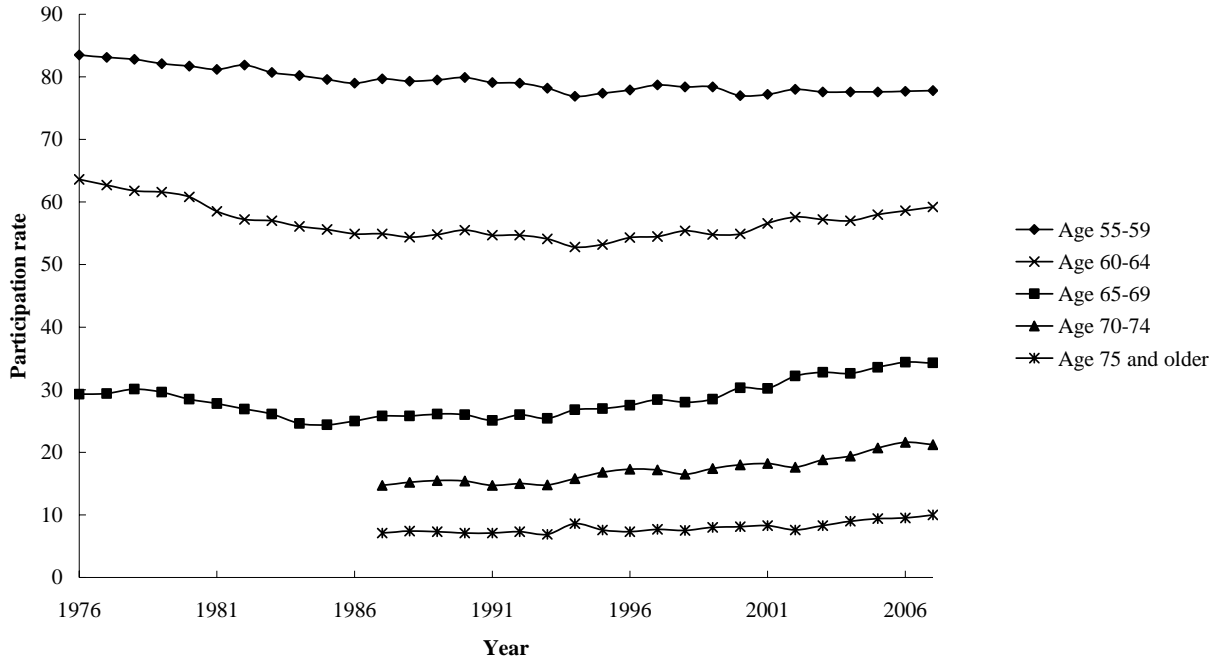
---

[6] Gendell, *above* note 5; Mitra Toossi, *Labor force projections to 2016: more workers in their golden years*, 130(11) MONTHLY LABOR REVIEW 33-52 (November 2007).

Figure 2. Labor Force Participation of Men Age 55 and Older, 1950-2007

Figure 3. Labor Force Participation of Men, Selected Ages, 1976-2007
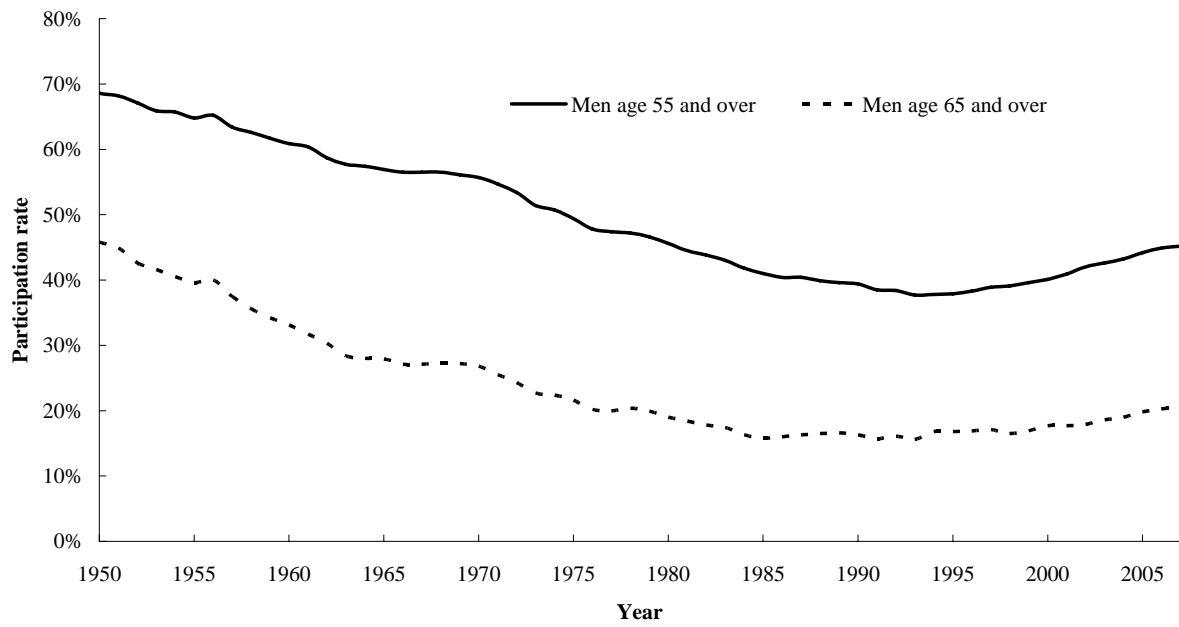
Source: Bureau of Labor Statistics, *Labor Force Statistics from the Current Population Survey,* Civilian Labor Force Participation Rate, http://data.bls.gov/labjava/outside.jsp?survey=ln.

In particular, labor force activity tends to decline after age 62, the age of initial eligibility for Social Security benefits.[7] By age 65, male and female labor force participation is close to half of what it was for people in their 50s, and work effort changes as well. By age 65, more than half of working women are employed in part-time as opposed to full-time positions. For both men and women, part-time employment forms the lion's share of total employment for people age 70 and older.

Pertinent here, while the Social Security "full retirement age" was historically set at age 65, it has been, since the year 2000, gradually increasing to age 67 for workers born after 1959.[8] For workers born in 1943 and turning 65 in 2008, the full retirement age is 66. Figure 4 shows that these modest increases in Social Security's full retirement

---

[7] See, e.g., National Institute on Aging and National Institutes of Health, GROWING OLDER IN AMERICA: THE HEALTH AND RETIREMENT STUDY (Washington, D.C.: U.S. Department of Health and Human Services 2007) [hereinafter GROWING OLDER IN AMERICA], 41.

[8] Social Security Administration, *Retirement benefits by year of birth* Web page, http://www.socialsecurity.gov/retire2/agereduction.htm.

age have not kept up with the rather dramatic increases in the life expectancies of women and men since the Social Security system was created.

Figure 4. Life Expectancies at Birth versus Social Security Full Retirement Age
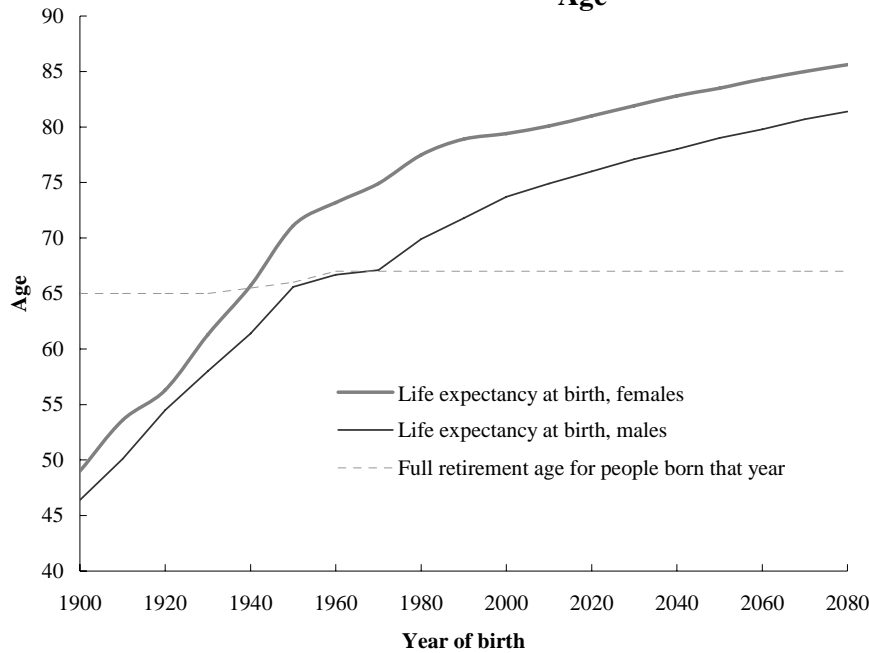
Nor have the modest increases in labor force participation of elderly Americans kept up with their increasing life expectancies. All in all, older men leaving the workforce today can anticipate an average of 18 years in retirement, up from just 13 years in retirement 30 years ago,[9] and a recent estimate projects that by 2020 the average worker's retirement period will stretch to 20 years.[10]

c.   Older Americans are Healthier and Many Can Work Longer

Older Americans are generally healthier than their predecessors, and they have a greater ability to work. While they still experience a variety of chronic health conditions

---

[9] Committee for Economic Development, NEW OPPORTUNITIES FOR OLDER WORKERS (New York: Committee for Economic Development 1999), 6.

[10] Peter Keating, *The Smart Money Path to Retiring Early*, SMARTMONEY.COM (April 1, 2007).

in old age, those conditions do not seem to limit work effort as much as in the past, in part because the nature of work has also changed.

> ### i. Health and Health Limitations

Most older Americans are in reasonably good health. According to the 2005 National Health Interview Survey, 53.7 percent of the population ages 50 to 64 reported their health as "excellent" or "very good," up from 52.2 percent in 1995.[11] Similarly, 42.3 percent of those 65 to 74 reported their health as "excellent" or "very good" in 2005, up from 40.9 percent in 1995. By contrast, those over age 75 experienced a slight decrease from 34.0 percent in good health in 1995 to just 33.8 in 2005.

For obvious reasons, health is an important determinant of one's ability to work. For example, more than half of men and one-third of women who left the labor force before the Social Security early-retirement age of 62 said that health limited their ability to work.[12] Similarly, longitudinal data from the federal government's Health and Retirement Survey shows that the onset of major health problems, such as a stroke or heart attack, frequently leads directly to withdrawal from the labor force.[13]

In that regard, many individuals have health problems even before they reach age 65. For example, Figure 5 shows that in 2002, 20 percent of men and 25 percent of women ages 55 to 64 reported a health problem that limited their work activity, although one-fifth of those reporting a health problem were working in some capacity. Arthritis and other musculoskeletal conditions accounted for 47 percent of people ages 55 to 64 who were not working in 2002 because of a health limitation, followed by cardiovascular conditions (16 percent), neurological problems (8 percent) and allergies and respiratory problems (7 percent).[14] Arthritis and hypertension were also the major problems reported by Health and Retirement Survey respondents age 55 and older who were working that year.[15]

---

[11] John Gist, Laurel Beedon and Lisa Southworth, *The State of 50+ America* (Washington, D.C.: AARP 2007), 26. See also Administration on Aging, *A Profile of Older Americans: 2007* (Washington, D.C.: U.S. Department of Health and Human Services 2007), at 12 (finding that in 2006, 39 percent of noninstitutionalized persons 65 and over assessed their health as excellent or very good, compared to 65.1 percent for persons aged 18-64); Alicia H. Munnell and Jerilyn Libby, *Will People be Healthy Enough to Work Longer?* (Boston, Mass.: Center for Retirement Research at Boston College, Issue in Brief No. 7-3, 2007); David Cutler, Jeffrey Liebman, Mark Shepard and Seamus Smyth, *An Expanded Model of Health and Retirement* (Cambridge, Mass.: National Bureau of Economic Research, Papers on Retirement Center Projects No. NB07-15, 2007).
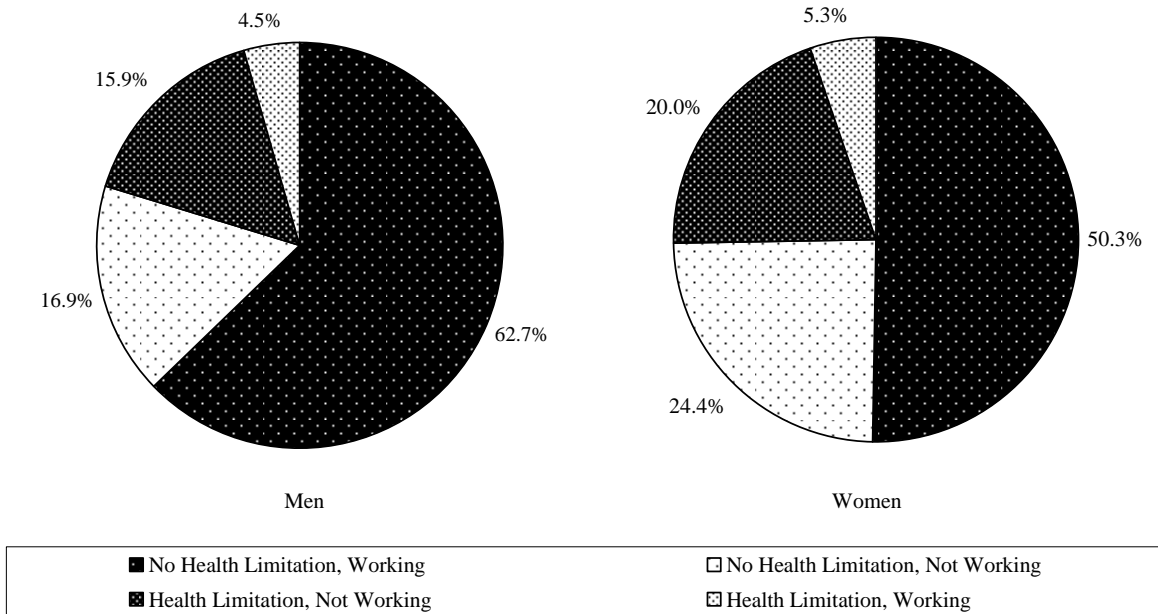
[12] GROWING OLDER IN AMERICA, *above* note 7, at 35.

[13] Ibid. at 20.

[14] Ibid. at 35-38.

[15] Ibid. at 35.

Figure 5. Health Limitations and Work Status, Ages 55-64, 2002

Men

Women

■ No Health Limitation, Working	□ No Health Limitation, Not Working
⊠ Health Limitation, Not Working	⊠ Health Limitation, Working

Source: National Institute on Aging and National Institutes of Health, GROWING OLDER IN AMERICA: THE HEALTH AND RETIREMENT STUDY (Washington, DC: U.S. Department of Health and Human Services 2007), figure 1-13.

Of course, health tends to decline with advancing age. Arthritis, hypertension and heart problems are the most common conditions associated with advancing age.[16] Table 3 shows the percentage of people age 65 and over who reported having selected chronic health conditions.

Table 3. Percentage of People Age 65 and Over Who Reported Having Selected Chronic Health Conditions, 1997–2006 (percent)

	Heart disease	*Hyper-tension*	*Stroke*	*Emphy-sema*	*Asthma*	*Chronic bronchitis*	*Any cancer*	*Diabetes*	*Arthritis*
1997–1998	32.3	46.5	8.2	5.2	7.7	6.4	18.7	13.0	na
1999–2000	29.8	47.4	8.2	5.2	7.4	6.2	19.9	13.7	na
2001–2002	31.5	50.2	8.9	5.0	8.3	6.1	20.8	15.4	na
2003–2004	31.8	51.9	9.3	5.2	8.9	6.0	20.7	16.9	50.0
2005–2006	30.9	53.3	9.3	5.7	10.6	6.1	21.1	18.0	49.5

Source: Federal Interagency Forum on Aging Statistics, OLDER AMERICANS 2008 (KEY INDICATORS OF WELL-BEING) (Washington, D.C.: Federal Interagency Forum on Aging Statistics 2008), table 16b.

---

[16] Ibid. at 22.

Health also varies by socioeconomic status. For example, whites report very good or excellent health at rates almost double those of blacks and Hispanics.[17] Also, one study found that the pattern of disease of 50-year-olds with less than a high school education is similar to that of 60-year-olds with college degrees.[18]

Co-morbidity—the combination of multiple chronic health problems—also increases with advancing age. For example, Table 4 shows that the percentage of people free of chronic problems falls with age, and the percentage of people with multiple problems increases. Diabetes and obesity are also on the rise, and these are likely to lead to increases in disability, mortality, sick days and retirement.[19]

Table 4. Health Problems, by Age, 2002 (percent of respondents)

Number of health problems	55–64	65–74	75–84	85+
0	40%	26%	18%	17%
1	35	36	34	34
2	17	24	29	29
3	6	10	16	14
4 or more	2	4	5	6

Note: Health problems include six major categories: hypertension, diabetes, cancer, bronchitis/emphysema, heart condition and stroke. Columns may not sum to 100 percent due to rounding.
Source: National Institute on Aging and National Institutes of Health, GROWING OLDER IN AMERICA: THE HEALTH AND RETIREMENT STUDY (Washington, D.C.: U.S. Department of Health and Human Services 2007), table 1-1.

Cognitive health also declines with age. Around 10 percent of people age 70 and older have moderate to severe cognitive impairment, and the prevalence increases sharply with age.[20] Similarly, severe depression affects about 20 percent of people age 85 and older, compared with just 15 percent of those under 85.[21]

---

[17] Ibid. at 20.

[18] Ibid.

[19] Ibid. at 48 (diabetes); Gist et al., *above* note 11, at 31 (a disturbing drop in the percent of the 50+ population who are not overweight and not obese—from 39.7 percent in 1998 to 33.8 percent in 2005).

[20] GROWING OLDER IN AMERICA, *above* note 7, at 20.

[21] Ibid. at 21

Although poor health is a significant hazard in old age, improvements in medical technology have made it easier for people to manage their chronic disorders. In particular, much of the decline in chronic disability can be attributed to significant improvements in the medical management of cardiovascular disease.[22] Table 5 shows that between 1992 and 2005, the age- adjusted proportion of people age 65 and over with a limitation in Activities of Daily Living (ADLs), with a limitation in Instrumental Activities of Daily Living (IADLs) or in a residential facility declined from 49 percent to 42 percent.[23]

---

[22] See, e.g., Kenneth G. Manton, XiLiang Gu and Vicki L. Lamb, *Change in chronic disability from 1982 to 2004/2005 as measured by long-term changes in function and health in the U.S. elderly population*, 103(48) PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA 18,374-18,379 (2006). See also Federal Interagency Forum on Aging Statistics, OLDER AMERICANS 2008 (KEY INDICATORS OF WELL-BEING) (Washington, D.C.: Federal Interagency Forum on Aging Statistics 2008), 26 (indicator 15) (showing that from 1981 to 2004, death rates for heart disease and stroke declined by around 44 percent).

[23] The link between health and workability is not as clear as it may appear when health is measured in terms of degrees of disability by the number of Activities of Daily Living (ADLs) a person has. ADLs may be good measures for the degree of dependency in older people, but they may not be good proxies for workability because they pose serious limitations that interfere with daily living, let alone work. Of course, we realize that plenty of people work despite their physical and mental limitations; however, their limitations do not seem to amount to the deficiencies identified as ADLs. In 2005, among Medicare beneficiaries over age 65, over 28 percent of community-dwelling recipients and 96 percent of institutionalized recipients had difficulty with at least one ADL. Administration on Aging, *above* note 11, at 14.

Table 5. Activities of Daily Living (ADLs) or Instrumental Activities of Daily Living (IADLs) or Who Are in a Facility, Selected Years 1992–2005

	1992	1997	2001	2005
IADLs only	13.7	12.7	13.4	12.3
1 to 2 ADLs	19.6	16.6	17.2	18.3
3 to 4 ADLs	6.1	4.9	5.3	4.7
5 to 6 ADLs	3.5	3.2	3	2.5
Facility	5.9	5.1	4.8	4.3
Total	**48.8**	**42.5**	**43.7**	**42.1**

Note: ADL limitations refer to difficulty performing (or inability to perform for a health reason) one or more of the following tasks: bathing, dressing, eating, getting in/out of chairs, walking or using the toilet. IADL limitations refer to difficulty performing (or inability to perform for a health reason) one or more of the following tasks: using the telephone, light housework, heavy housework, meal preparation, shopping or managing money.

Source: Federal Interagency Forum on Aging Statistics, OLDER AMERICANS 2008 (KEY INDICATORS OF WELL-BEING) (Washington, D.C.: Federal Interagency Forum on Aging Statistics 2008), table 20a.

Another study estimated that the prevalence of nondisabled persons older than 65 years increased from 73.5 percent in 1982 to 81 percent in 2004/2005—that is, there was a decline in the chronic disability prevalence rate from 26.5 percent in 1982 to just 19.0 percent in 2004/2005).[24] More specifically, 91.1 percent of those aged 65–74 were nondisabled in 2004/2005, up from just 85.8 percent in 1982; 78.1 percent of those aged 75-84 percent were nondisabled in 2004/2005, up from 69.3 percent in 1982; and 50.3 percent of those 85 and older were nondisabled in 2004/2005, up from just 37.9 percent in 1982.

All in all, poor health is one of the most important factors influencing individual decisions to retire, perhaps even more important than financial considerations. In that regard, the 2002 Health and Retirement Survey found that poor health was a very important factor for 35 percent of retirees in the 55–59 age category, although poor health was a relatively less important motivating factor for retirement as age

---

[24] Manton et al., *above* note 22, at 18,375.

increased.[25] At the same time, however, it appears that health quality is increasing even faster than life length.[26] In short, we can expect to live longer and healthier lives.[27]

ii.   Workability

The American workplace has also changed over the years. As our economy has changed from manufacturing to services, physical strength has become less important and computer and people skills have become more important. The Health and Retirement Survey data reflect this decline. For example, in 1998, just 34 percent of 51- to 56-year-olds reported that their jobs required lots of physical effort, down from 39 percent among the same age group in 1992.[28] Nevertheless, Table 6 shows that even as recently as 2002, some 30 percent of workers ages 55–79 still reported doing "lots of physical effort," and 14 percent said their jobs required lifting heavy loads.

---

[25] GROWING OLDER IN AMERICA, *above* note 7, at 40. Of note, health also makes a difference in how much people save for retirement and in how much they earn while working, with poor health reducing both. Ibid. at 60, 61.

[26] See, e.g., Kenneth G. Manton, Gene R. Lowrimore, Arthur D. Ullian, XiLiang Gu and H. Dennis Tolle, *Labor force participation and human capital increases in an aging population and implications for U.S. research investment*, 104 (26) PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA 10,802-10,807 (2007).

[27] The proposition that better health has resulted in longer lives and in a greater ability to work seems straight-forward and intuitive. While some longevity gains are doubtless brought about by better health, some gains in longevity might be accompanied by prolonged disability. Whether the gains in life expectancy are concentrated in years that are free of disability has been a subject of much debate. Using difficulties with Instrumental Activities of Daily Living and Activities of Daily Living as measures of disability, one recent study found increases in active life expectancy past age 65 from 1992 to 2003 and decreases in life expectancy for those with severe disabilities. Liming Cai and James Lubitz, *Was There Compression of Disability for Older Americans from 1992 to 2003?* 44(3) DEMOGRAPHY 479–495 (2007).

[28] GROWING OLDER IN AMERICA, *above* note 7, at 43.

Table 6. Job Requirements of Employed Respondents, by Age. 2002 (percent reporting that "My job requires X all of the time or most of the time")

Age category	Lots of physical effort	Lifting heavy loads	Stooping, kneeling or crouching	Good eyesight	Intense concentra-tion	People skills	Computer use
55–59	30%	14%	27%	89%	81%	88%	53%
60–64	33	13	24	87	81	87	45
65–69	29	11	21	90	80	87	29
70–74	27	8	17	87	76	81	23
75–79	28	10	17	87	80	79	17
80+	23	10	11	90	81	81	17

Source: National Institute on Aging and National Institutes of Health, GROWING OLDER IN AMERICA: THE HEALTH AND RETIREMENT STUDY (Washington, D.C.: U.S. Department of Health and Human Services 2007), table 2-2.

iii. Willingness to Work

Longer lives and better health do not automatically translate into longer work lives because even if greater longevity is accompanied by good health, that would only improve a person's ability to work, but not necessarily the person's willingness to work. In short, attitudes matter. In that regard, in a recent paper on phased retirement, Chen and Scott (2006) found that older workers who were gradually phasing into retirement were more likely to have a positive view of work (that is, to express both a belief that work is by itself important, not solely as a means for acquiring money and a desire to keep working even if income is not needed).[29]

Beyond the ability and willingness to work, there are institutional barriers that make it difficult for older workers to stay in the labor force. Many of the pension laws and practices discussed below have acted as powerful deterrents to continued work by older people. Even with the Pension Protection Act of 2006 permitting in-service distribution for workers who remain at work when they are at least 62 years of age,[30]

---

[29] Yung-Ping Chen and John C. Scott, *Phased Retirement: Who Opts For It and Towards What End?* (Washington, D.C.: AARP Research Report 2006-01, 2006). See also Esteban Calvo, Kelly Haverstick and Steven A. Sass. *What Makes Retirees Happier: A Gradual or 'Cold Turkey' Retirement?* (Boston, Mass.: Center for Retirement Research at Boston College, Working Paper No. 2007-18, 2007) (suggesting that workers are happiest when they have control over their transitions from work to retirement).

[30] Public Law No. 109-280; I.R.C. § 401(a)(36). See also Joint Committee on Taxation, *Technical Explanation of H.R. 4, The "Pension Protection Act of 2006," as Passed by the House on July 28, 2006, and as Considered by the Senate on August 3, 2006* (Washington, D.C.: Joint Committee on Taxation, JCX Document No. JCX-38-06, Aug. 3, 2006).

some pension consultants wonder if this law will be effective at keeping older people working longer.

From an economic standpoint, even if people are able and willing to work, this is only the story from the supply side of labor. The demand for labor must also be there for older people to be employed. Labor market conditions—including the degree of discrimination against older workers—must be conducive for the employment of older workers. Many employers value older workers' abilities and contributions as managers, particularly their knowledge of workplace procedures and ability to interact with customers, but some employers consider older workers to be less productive and more expensive than younger workers. Older workers themselves largely believe that age discrimination is prevalent in the workplace, reporting fewer opportunities to interview and fewer call-backs than similarly qualified younger applicants.[31]

The prevalence of opportunities available to older workers is also affected by the overall functioning of the economy—locally, regionally, nationally and internationally. For example, if more jobs are outsourced to another country, there will be less demand for labor in the domestic market. As already mentioned, by age 70, part-time employment accounts for the vast majority of employment of both women and men. Also, the vast majority of older people who work after retirement change occupations and industries.[32]

d. Many Older Americans Have Inadequate Retirement Savings

The combination of earlier retirements and longer life expectancies has led a number of analysts to express concern about the financial prospects of elderly retirees in the 21st century.[33] The United States already has 36 million residents who are age 65 and

---

[31] Richard W. Johnson and Janette Kawachi, *Job Changes at Older Ages: Effects on Wages, Benefits, and Other Job Attributes* (Washington, D.C.: The Urban Institute Discussion Paper 07-03, 2007). See also Andrew D. Eschtruth, Steven A. Sass and Jean-Pierre Aubry, *Employers Lukewarm About Retaining Older Workers* (Boston, Mass.: Center for Retirement Research at Boston College, Work Opportunities for Older Americans Series, Paper No. 10, 2007); Government Accountability Office, *Older Workers: Some Best Practices and Strategies for Engaging and Retaining Older Workers* (Washington, D.C.: Government Accountability Office, GAO-07-433T, 2007) (testimony of Comptroller-General David M. Walker before the U.S. Senate Special Committee on Aging, Feb. 27, 2007); Eric J. Toder, Richard W. Johnson, Gordon B.T. Mermin and Serena Lei, *Capitalizing on the Economic Value of Older Adults' Work: An Urban Institute Roundtable* (Washington, D.C.: The Urban Institute, Retirement Policy Program Occasional Paper No. 9, 2008) .

[32] Johnson and Kawachi, *above* note 31.

[33] See, e.g., Congressional Budget Office, *Baby Boomers' Retirement Prospects: An Overview* (Washington, D.C.: Congressional Budget Office, 2003); Jack VanDerhei and Craig Copeland, *Can America Afford Tomorrow's Retirees: Results from the EBRI-ERF Retirement Security Projection Model* (Washington, D.C.: Employee Benefit Research Institute, Issue Brief No. 263, 2003); Luke Delorme, Alicia Munnell and Anthony Webb, *Empirical*

over and 4.7 million who are age 85 and over.[34] By 2030, however, the United States will have 72 million residents age 65 and over, and it will have 9.6 million residents age 85 and over.

Pertinent here, only about half of American workers have a pension plan, and most of those are at the upper end of the income distribution. For example, of the 157 million American workers in 2006, just 78.6 million (50.0 percent) worked for an employer (or union) that sponsored a retirement plan, and just 62.3 million (39.7 percent) participated in that plan.[35] And while 64.7 percent of workers with annual earnings of $50,000 or more participated in a plan in 2006, only 16.2 percent of workers earning between $10,000 and $14,999 participated that year.

Altogether, private pensions made up just 10 percent of the income of persons age 65 and over in 2005, while Social Security provided 37 percent of their income, and earnings provided 28 percent.[36] When one also factors in the looming shortfalls in Social Security and Medicare and the impending substantial increases in both health insurance premiums and out-of-pocket medical spending, the retirement picture is gloomy for many American workers. Working longer, however, would provide additional income that older Americans could use to support themselves and to build up their savings in anticipation of future retirement.[37]

Even among those that have pension plans, however, retirement savings are often rather meager. Fewer and fewer workers are covered by traditional defined benefit plans that pay monthly pensions for life. Instead, most workers with pensions are covered by 401(k)-type plans, and the average amount of their retirement savings tends to be fairly low. For example, according to the Employee Benefit Research Institute's 2008 Retirement Confidence Survey, just 72 percent of workers reported that they or their spouses have saved money for retirement, and overall savings levels tend

Regularity Suggests Retirement Risks (Boston, Mass.: Center for Retirement Research at Boston College, Issue in Brief No. 41, 2006).

[34] Wan He, Manisha Sengupta, Victoria A. Velkoff and Kimberly A. DeBarros, 65+ IN THE UNITED STATES: 2005 (Washington, D.C.: U.S. Government Printing Office, Current Population Report No. P23-209, 2005), 6.

[35] Craig Copeland, *Employment-Based Retirement Plan Participation: Geographic Differences and Trends, 2006* (Washington, D.C.: Employee Benefit Research Institute, Issue Brief No. 311, 2007).

[36] Social Security Administration, Office of Policy, *Fast Facts & Figures About Social Security, 2007* Web page, http://www.ssa.gov/policy/docs/chartbooks/fast_facts/2007/fast_facts07.html#agedpop. See also Ken McDonald, *Income of the Elderly Population Age 65 and Over, 2006*, 28(12) EBRI NOTES 10-15 (Washington, D.C.: Employee Benefit Research Institute, December 2007).

[37] Butricia et al., *Working for a Good Retirement*, *above* note 3.

to be quite modest, with 49 percent of workers reporting savings of less than $50,000.[38] Even among workers age 55 and over, 43 percent report savings of less than $50,000, and 28 percent report savings of less than $10,000.

On the bright side, however, the percentage of workers with a 401(k) plan, individual retirement account (IRA) or similar individual account plan is growing, and these are now the primary vehicles for retirement savings in the United States.[39] In 2005, 33.1 percent of workers age 21–64 participated in 401(k)-type plans, and 22.9 percent had IRAs; by the end of 2006, these individual accounts held $7.5 trillion in assets. Many workers will, no doubt, end up saving enough in their individual accounts to have adequate retirement incomes. Unfortunately, many others will not.[40] Younger, less-educated, low-income and minority workers are just not saving enough in these plans.

Pertinent here, recent studies have shown that automatically enrolling people into 401(k)-type plans can achieve higher levels of participation, and automatically escalating the levels of their contributions can dramatically increase their level of savings.[41] In that regard, 401(k)-type plans have only been around since the 1980s, and the provisions encouraging automatic enrollment have only been around since the enactment of the Pension Protection Act of 2006.[42] As more and more 401(k)-type plans

---

[38] Ruth Helman, Mathew Greenwald and Associates, Jack VanDerhei and Craig Copeland, *The 2008 Retirement Confidence Survey: Americans Much More Worried About Retirement, Health Costs a Big Concern* (Washington, D.C.: Employee Benefit Research Institute, Issue Brief No. 316, 2008).

[39] Craig Copeland, *Ownership of Individual Retirement Accounts (IRAs) and 401(k)-Type Plans*, 29(5) EBRI NOTES 2-12 (Washington, D.C.: Employee Benefit Research Institute, 2007).

[40] See, e.g., JPMorgan Asset Management, *Ready! Fire!Aim?: How some target date fund designs are missing the mark on providing retirement security to those who need it most* (New York: JPMorgan, Asset Management, JPMorgan White Paper 2007), http://www.jpmorgan.com/pages/jpmorgan/am/ia/research_and_publications/white_papers (examining how unlikely it is that employees will accumulate enough in individual account plans to replace 35 percent of final earnings on top of around 40 percent from Social Security).

[41] Richard H. Thaler and Cass R. Sunstein, NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS (New Haven, Conn.: Yale University Press 2008); Richard H. Thaler and Schlomo Bernartzi, *The Behavioral Economics of Retirement Savings Behavior* (Washington, D.C.: AARP Policy Institute, Research Report No. 2007-02, 2007); Jodi DiCenzo, *Behavioral Finance and Retirement Plan Contributions: How Participants Behave, and Prescriptive Solutions* (Washington, D.C.: Employee Benefit Research Institute, Issue Brief No. 301, 2007); Jack VanDerhei and Craig Copeland, *The Impact of PPA on Retirement Savings for 401(k) Participants*, (Washington, D.C.: Employee Benefit Research Institute, Issue Brief No. 318, 2008); Bridgette C. Madrian and Dennis F. Shea, *The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior*, 116 (4) *Quarterly Journal of Economics* 1149–1187 (2001).

[42] Pension Protection Act of 2006, Public Law No. 109-280, § 902; Patrick Purcell, *Automatic Enrollment in 401(k) Plans* (Washington, D.C.: Congressional Research Service, CRS Report No. RS21954, 2006).

are created, and more and more plans adopt these new automatic enrollment provisions, we expect to see significant improvements in the level of retirement savings.

3. How Current Pension Laws Influence the Timing of Retirement
a. Key Pension Provisions that Relate to Retirement Age
i. The Penalty on Premature Withdrawals

I.R.C. § 72(t) generally imposes a 10 percent tax on distributions before an individual reaches age 59½, but there are numerous exceptions. For example, there is an exception for distributions that take the form of a lifetime annuity, and there are exceptions for distributions on account of disability or to cover high medical expenses; and distributions from an IRA can even be used to purchase a residence or pay college tuition.[43]

ii. Normal Retirement Age and Age Discrimination

ERISA defines "normal retirement age" as the earlier of the time specified in the plan or the later of age 65 or the fifth anniversary of the time the employee commenced participation in the plan.[44] Pertinent here, "full retirement age" under the Social Security system is currently age 66, but it is gradually increasing to age 67.[45]

The Age Discrimination in Employment Act of 1967 (ADEA) outlawed mandatory retirement before the age of 65.[46] The limit was raised to 70 in 1978 and finally removed altogether in 1986. The Act generally prohibits employers from discriminating against workers over the age of 40. Also, since 1988, employers have been prohibited from ceasing benefit accruals for employees who work beyond age 64 and from excluding participants who are hired within five years of normal retirement age.[47]

These statutes clearly forbid a cessation of benefit accruals or a reduction in the rate of benefit accruals because of age, but they do not automatically prohibit benefit

---

[43] David A. Pratt and Dianne Bennett, *Simplifying Retirement Plan Distributions*, in PROCEEDINGS OF THE FIFTY-SEVENTH NEW YORK UNIVERSITY INSTITUTE ON FEDERAL TAXATION—EMPLOYEE BENEFITS AND EXECUTIVE COMPENSATION, Chapter 5 (Alvin D. Lurie, ed. 1999).

[44] ERISA § 3(24); I.R.C. § 411(a)(8).

[45] Social Security Administration, *Full retirement age* Web page, http://www.socialsecurity.gov/retire2/retirechart.htm.

[46] 29 U.S.C. §§ 621–634. There are exceptions for a handful of workers such as police officers and firefighters.

[47] I.R.C. § 411(b)(1)(H) prohibits a defined benefit plan from ceasing accruals, or reducing the rate of benefit accruals, "because of the attainment of any age." Similarly, I.R.C. § 411(b)(2)(A) prohibits a defined contribution plan from ceasing allocations, or reducing the rate at which amounts are allocated, to a participant's account, "because of the attainment of any age." Parallel provisions are found in ERISA and in ADEA. ERISA §§ 204(b)(1)(H)(i) and (ii); 29 U.S.C. § 623(i).

reductions that correlate with age. In fact, various exceptions expressly permit pension plans to limit the total amount of benefits or the total number of years used to compute benefits. Still other exceptions to the age discrimination laws allow plans to provide subsidized early retirement benefits and Social Security supplements.

iii. Minimum Distribution Age

I.R.C. § 401(a)(9) generally requires participants in pension plans to begin taking distributions soon after they reach age 70½.[48] Failure to take the required minimum distribution can result in a 50 percent excise tax penalty on the excess of the amount required to have been distributed over the amount that actually was distributed.[49] In addition, a plan that fails to make the required minimum distributions can be disqualified.

iv. Benefit Payout Rules

Defined benefit plans are typically designed to pay benefits in the form of a lifetime annuity.[50] For married couples, joint and survivor annuities and pre-retirement survivor annuities are the default forms of distribution.[51] In recent years, however, defined benefit plans have been moving away from paying annuities, with more and more plans offering installment and lump sum distribution alternatives.[52] Defined contribution plans typically make lump sum distributions.[53]

v. New Phased Retirement Rules

Under prior law, pension plans generally could not provide "in-service" distributions until an employee had separated from service, died, become disabled or reached the normal retirement age specified under the plan. That made it almost impossible for workers to phase into retirement by reducing their work hours and

---

[48] More specifically, distributions typically must begin no later than April 1 of the calendar year following the calendar year in which the employee attains age 70½. Distributions after the death of a plan participant must also meet certain minimum distribution requirements. An exception allows older workers with a pension plan from their current employer to delay distributions until they retire, but workers with pensions from prior employers and IRA holders must begin taking distributions from those plans soon after they reach age 70½.

[49] I.R.C. § 4974.

[50] Treasury Regulation § 1.401-1(b)(1).

[51] ERISA § 205; I.R.C. §§ 410(a)(11), 417.

[52] See, e.g., Olivia S. Mitchell, with Erica L. Dykes, *New Trends in Pension Benefit and Retirement Provisions*, in BENEFITS FOR THE WORKPLACE OF THE FUTURE, edited by Olivia S. Mitchell, David S. Blitzstein, Michael Gordon and Judith F. Mazo (Philadelphia: University of Pennsylvania Press, 2003), 110–133, at 123.

[53] To be sure, plan provisions allowing lump sum distributions may have mixed effects. Early eligibility for a lump sum distribution may induce workers to retire early. On the other hand, the tendency to dissipate lump sum distributions may result in workers having to work longer in order to accumulate sufficient savings for retirement.

tapping their pensions to make up the difference. Beginning in 2007, I.R.C. § 401(a)(36) permits in-service pension plan distributions to employees 62 and older. Added by the Pension Protection Act of 2006 (PPA), this provision expressly permits distributions "to an employee who has attained age 62 and who is not separated from employment at the time of such distribution."[54] This will give workers over age 62 greater flexibility about when they retire, but to the extent that workers tap their pensions prior to normal retirement age, it will reduce the amount of pension benefits that would otherwise have been available to them after normal retirement age.

vi. Benefits for Part-time Employees

ERISA's benefit accrual rules can also have a disparate impact on older workers, since so many work part-time. At the outset, the minimum coverage rules permit pension plans to benefit just 70 percent—and sometimes a smaller percentage—of an employer's full-time workers who are not highly compensated.[55] Moreover, in applying the minimum coverage rules, plans can usually exclude all of the employer's part-time workers—defined as those who work less than 1,000 hours per year.[56] Similar exceptions to the participation and vesting rules allow employers to design plans that ignore years in which employees work less than 1,000 hours.[57] The net effect is that relatively few part-time workers—old or young—earn pension benefits.

b. The Financial Incentives Created by Pension Plans

Pension plan designs create powerful financial incentives that influence individual decisions about the timing of retirement.[58] First, along with Social Security and other public benefits, private pensions help provide additional income and wealth that enable pension plan participants to retire earlier than they would in a no-pension world. Second, traditional defined benefit plans are typically designed to have financial incentives that induce most workers to retire during "windows" of opportunity that range from the pension plan's early retirement age through its normal retirement age. These plans provide large financial incentives for workers to stay with a firm at least until they are eligible for early retirement, but they also impose large financial penalties

---

[54] See also *Treasury Decision 932: Distributions From a Pension Plan Upon the Attainment of Normal Retirement Age*, 2007-1 CUMULATIVE BULLETIN 1386 (2007).

[55] I.R.C. § 410(b).

[56] I.R.C. § 410(b)(4).

[57] ERISA §§ 202(a)(3)(A), 203(b)(2)(A); I.R.C. §§ 410(a)(3)(A), 411(a)(5).

[58] This discussion follows Jonathan Barry Forman, MAKING AMERICA WORK (Washington, D.C.: Urban Institute Press 2006), 225–228.

on workers who stay past the plan's normal retirement age. Moreover, traditional defined benefit plans often offer early retirement incentives that push older workers out of the workforce at even earlier ages. Defined contribution plans can also influence the timing of the decision to retire, but their effects are typically less dramatic.

Pertinent here, Figure 6 provides a graphic comparison between a typical defined contribution plan and a traditional defined benefit plan. The figure compares the contributions made on behalf of an individual for the following two hypothetical pension plans. The first is a simple defined contribution plan with a flat contribution rate of 6 percent of salary and interest accruing at 5 percent per year. The second is a traditional defined benefit plan that pays a pension benefit at age 65 of 1 percent times years of service times final average compensation ($B = 1$ percent $\times$ *yos* $\times$ *fac*) (that is, a final-average-pay plan).

Figure 6. Annual Contribution Rates
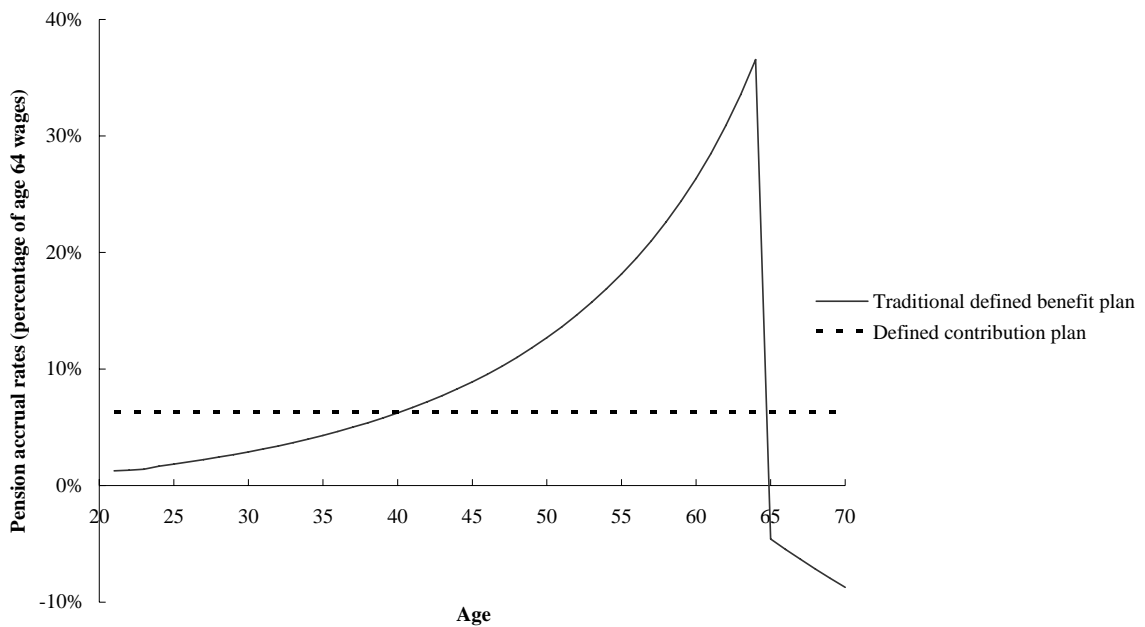
Source: Based on Ron Gebhardtsbauer, *Hybrid Pension Plan Coverage: Retirement into the 21st Century* (testimony before the Senate Committee on Health, Education, Labor, and Pensions, September 21, 1999), available at http://www.actuary.org/pdf/pension/retire99.pdf.

As shown in Figure 6, the defined contribution plan has a level percentage of contribution at all ages. It provides relatively larger benefit accruals than a final-average-pay plan for younger employees and relatively smaller benefit accruals for

older employees. On the other hand, the traditional final-average-pay plan is backloaded. It has severe financial penalties for leaving too early, and it imposes large financial penalties on older workers that tend to push them out of the workforce once they have reached the plan's early or normal retirement age.[59]

In that regard, consider two pension plans that are both worth, say, $1,000,000 at age 65: 1) a traditional final-average-pay plan paying $70,000 a year for life; and 2) a 10-percent-of-pay defined contribution plan with a $1,000,000 account balance. Most workers under the traditional plan would retire by age 65 (think university professors in Australia), while many workers under the defined contribution plan (think many university professors under TIAA-CREF in the United States) would keep working until age 70 or beyond, collecting more salary and growing their individual accounts.[60]

Pertinent here, Table 7 shows that, in recent years, many medium and large private establishments have switched from traditional defined benefit plans to defined contribution plans. In that regard, many analysts believe that this shift from traditional defined benefit plans to defined contribution plans is one of the major reasons why labor force participation by older Americans has increased since 1985.[61]

---

[59] Traditional final-average-pay plans also penalize workers who change jobs frequently.

[60] Our general inclination is to favor an age-neutral approach where workers would earn meaningful retirement benefits virtually every year that they work and do not face perverse incentives to retire at any arbitrary age. But we must confess that we expect most workers under a generous final-average-pay plan probably retire happy. Indeed, both of our hypothetical workers will probably retire happy, so it may not be all that easy to say which approach is "optimal."

[61] See, e.g., Leora Friedberg, *The Recent Trend Towards Later Retirement* (Boston, Mass.: Center for Retirement Research at Boston College, Work Opportunities for Older Americans Series, Paper No. 9, 2007), 4; Johnson and Kawachi, *above* note 31; Watson Wyatt Worldwide, *Predictive Factors for Retirement Timing* (Watson Wyatt Worldwide, United States, Paper No. 2008-WT-0018, 2008).

Table 7. Full-Time Employees in Medium and Large Private Establishments Participating in Defined Benefit and Defined Contribution Retirement Plans, Selected Years (percent)

Year	Defined benefit plans	Defined contribution plans	All retirement plans
1985	80	41	91
1986	76	47	89
1988	63	45	80
1989	63	48	81
1991	59	48	78
1993	56	49	78
1995	52	55	80
1997	50	57	79
1999	42	52	72
2000	36	50	70

Source: Bryandt Rose Dickerson, *Employee Participation in Defined Benefit and Defined Contribution Plans, 1985—2000* (Washington, D.C.: Bureau of Labor Statistics chart, revised June 16, 2004), http://www.bls.gov/opub/cwc/cm20030325tb01.htm.

4. Perspectives on the Optimal Retirement Age

Where you stand on the question of optimal retirement age probably depends upon where you sit. In this section, we briefly consider the optimal retirement age from the perspectives of employers, government and workers.

a. The Employer Perspective

Current pension rules permit employers to design pension plans in which benefit accruals vary dramatically over a worker's career, and employers use those rules to shape their workers' choices about work and retirement. With a traditional final-average-pay plan, for example, employers can backload benefits in favor of long-service workers and embed financial penalties that push expensive, older workers into premature retirement once they have reached some arbitrary retirement age. In short, the current pension system permits retirement plans to be non-neutral about age, and many employers use that permission to promote their own interests.

To be sure, more and more employers are moving toward defined contribution plans and their cash balance cousins. Still, hardly a year goes by without some Fortune

500 company or another using its pension plan to encourage older workers to retire.[62]

b.   The Government Perspective

The government, however, has much broader goals for pension policy. The government wants workers to earn pensions that could be meaningful additions to their Social Security benefits and personal savings for retirement. The government is also interested in having its citizens be productive and work as long as they can and want to. Working longer will increase the economic resources available to workers when they eventually retire, and at least for those who want to work longer, working longer will increase their well-being. From a budgetary perspective, getting older Americans to work longer would increase government revenues and also reduce the costs of providing benefits over relatively shorter retirement periods. On the other hand, the government might be concerned about the lost revenues that would result from any increases in the amount of tax-favored retirement savings or from any further delays in receiving taxable pension benefits.[63]

c.   The Worker Perspective

What about the worker's perspective? How do individuals decide when to retire? Retirement research shows that some individuals make very rational decisions about the optimal timing of retirement, but many others seem to make irrational decisions. There is no surprise here. Choosing an optimal, "economically feasible retirement age" is a complicated endeavor.[64] Individuals need to consider their sources of income, including Social Security, pensions, investments and health care. They need to consider their health, life expectancy, family circumstances and their desire for leisure and retirement. And they need to put it all together with the skill of an actuary, the rationality of an economist and the ingenuity of a lawyer.

---

[62] See, e.g., Micheline Maynard and Jeremy W. Peters, *Getting Auto Workers to Leave a Golden Job*, NEW YORK TIMES, March 22, 2006, at C1.

[63] For example, the *2009 Federal Budget* estimates that the tax exemptions for pension contributions and earnings cost the Treasury $118.8 billion in fiscal year 2008. Executive Office of the President and Office of Management and Budget, ANALYTICAL PERSPECTIVES, BUDGET OF THE UNITED STATES GOVERNMENT, FISCAL YEAR 2009 (Washington, D.C.: U.S. Government Printing Office 2008), table 19-1.

[64] See, e.g., Linda Smith Brothers, *An Individual's Chosen Retirement Age: When is the Economically Feasible Retirement Age Chosen over the Anchor Provided by Known Others?* 7(3) NORTH AMERICAN ACTUARIAL JOURNAL 85–110 (July 2003); Gaobo Pang, Mark Warshawsky and Ben Weitzer, *The Retirement Decision: Current Influences on the Timing of Retirement Among Older Workers* (Philadelphia, Pa.: Pension Research Council, Working Paper No. 2008-04, 2008); Watson Wyatt Worldwide, *Predictive Factors for Retirement Timing* (2008), http://www.watsonwyatt.com/research/whitepapers/wprender.asp?id=2008-WT-0018.

Many times, people just get it wrong: they make bad decisions. They often underestimate their life expectancies, overestimate their ability to meet their future retirement income needs and fail to understand the deleterious effects of inflation. Often, they do not save enough for retirement; they spend their savings too fast; or they are struck with an unexpected health crisis or downturn in the stock market.

Because the decision process is so complicated, individuals tend to make their decisions by starting from an initial or "anchor" point. For example, there has long been a "spike" in retirement levels at Social Security's early retirement age.[65] In effect, age 62 is an anchor point. Many Americans also retire around age 65—the historical full retirement age for Social Security, the eligibility age for Medicare, and the normal retirement age for many private pension plans. Individuals also look at the retirement ages chosen by neighbors, friends, colleagues and family members. Unfortunately, retirement research suggests that once an anchor point is chosen, individuals have difficulty making a sufficient adjustment to take into account their own circumstances.[66]

Workers also respond to financial incentives and disincentives. That's why early retirement subsidies work so well. They induce workers to retire rather than keep on working.

5.   The Implications of Changing Demography for the Optimal Retirement Age

With longer life expectancies, many analysts have begun to question why we define retirement age as "years-since-birth."[67] For example, instead of using a particular age-since-birth—for example, age 65—as our measure of the optimal retirement age, we could tie the optimal retirement age to remaining life expectancy or to mortality risk. A third approach would be to define the optimal retirement age by allocating a fixed percentage of each adult's life between her working years and her retirement years. These alternatives are discussed in turn, and they are followed by a brief discussion about how we should handle the issues that arise from the fact that women have longer life expectancies than men.

---

[65] See, e.g., Gary Burtless, *An Economic View of Retirement*, in BEHAVIORAL DIMENSIONS OF RETIREMENT ECONOMICS, edited by Henry J. Aaron (Washington, D.C.: Brookings Institution Press, 1999): 7–42.

[66] Brothers, *above* note 64.

[67] See especially John B. Shoven, *Alternative Ways of Measuring Age: Their Relationship to Labor Force Participation, Government Policies, and GDP* (Cambridge, Mass.: National Bureau of Economic Research, Working Paper No. 13476, 2007).

a.   Remaining Life Expectancy

Instead of using age-since-birth as our measure of the optimal retirement age, we could use a measure of years-until-death, a/k/a remaining life expectancy. For example, the optimal retirement age could be defined to be the age at which a given cohort of workers has a remaining life expectancy of 15 years.

In that regard, Figure 7 shows how the remaining life expectancy has and is increasing for older males. For example, the remaining life expectancy of a 65-year-old man has increased from 12.81 years in 1950 to more than 16 years today, and it is expected to increase to 16.55 years in 2010 and to 18.37 years in 2040. Pertinent here, a 70-year-old man in 2010 will have a longer remaining life expectancy than a 65-year-old man had in 1950, and by 2040, a 70-year-old man will have a remaining life expectancy nearly as long as that of a 60-year-old man in 1950.
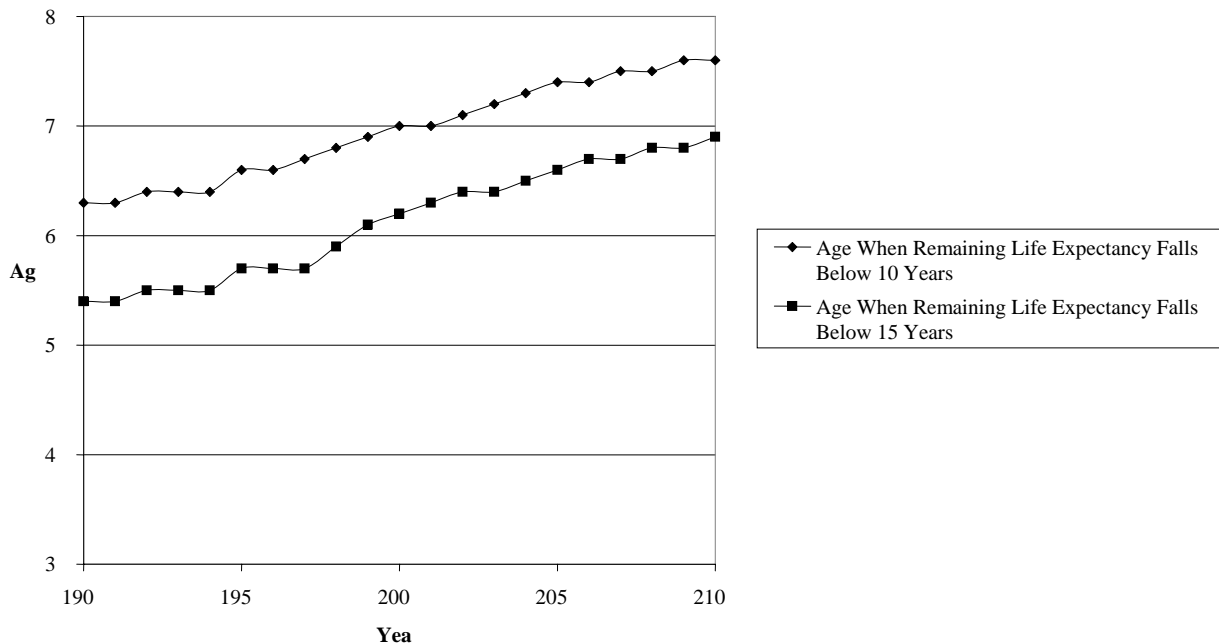
Figure 7. Remaining Life Expectancy at Various Ages, from 1950 to 2040
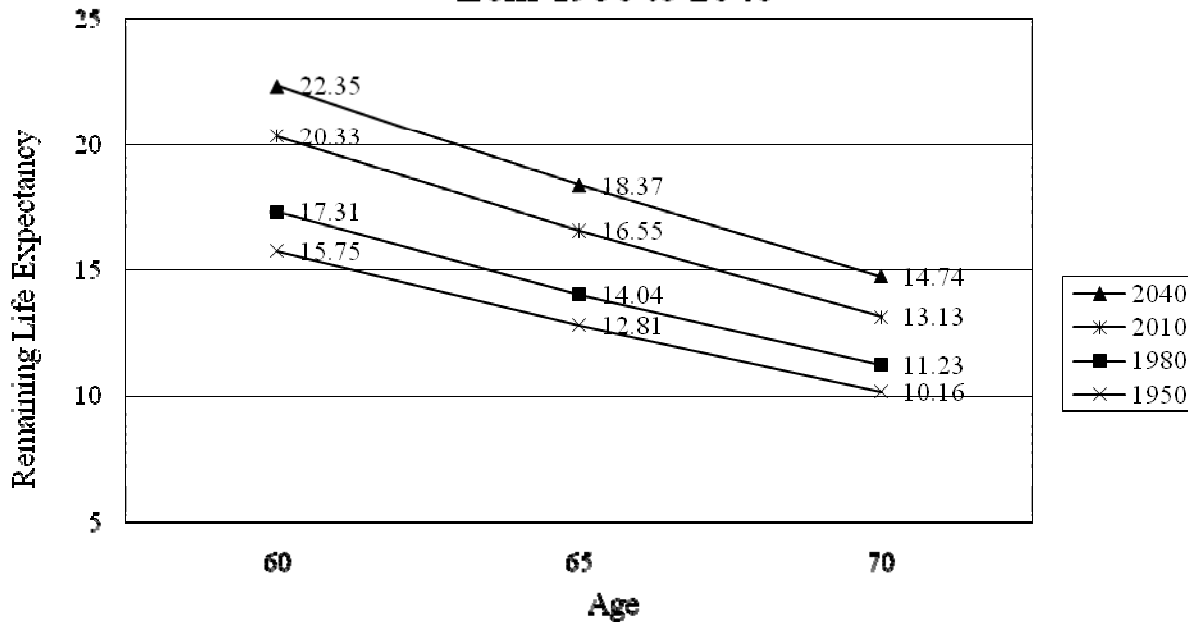
Source: Felicitie C. Bell and Michael L. Miller, *Life Tables for the United States Social Security Area 1900-2100* (Social Security Administration, Office of the Chief Actuary, Actuarial Study No. 120, 2005), table 10.

Tying the optimal retirement age to remaining life expectancy would be fairly simple. Policymakers would simply define the optimal retirement age as the age at which an individual's remaining life expectancy is equal to, say, 15 years. For example, Figure 8 shows how the remaining life expectancy for males has and will change from 1900 to 2100. Pertinent here, the bottom series shows that the age when a male's remaining life expectancy first fell below 15 years rose from age 59 in 1900, to 62 in 1950 and to 67 in 2000; and it is expected to increase to 68 in 2010, to 71 in 2050 and to 74 in 2100. Consequently, if this approach were adopted, normal retirement age could be set at 68 in 2010 and gradually increased to 74 by 2100.

Figure 8. Age of Remaining Life Expectancy Milestones for Men, 1900-2100

Legend:
- Age When Remaining Life Expectancy Falls Below 10 Years
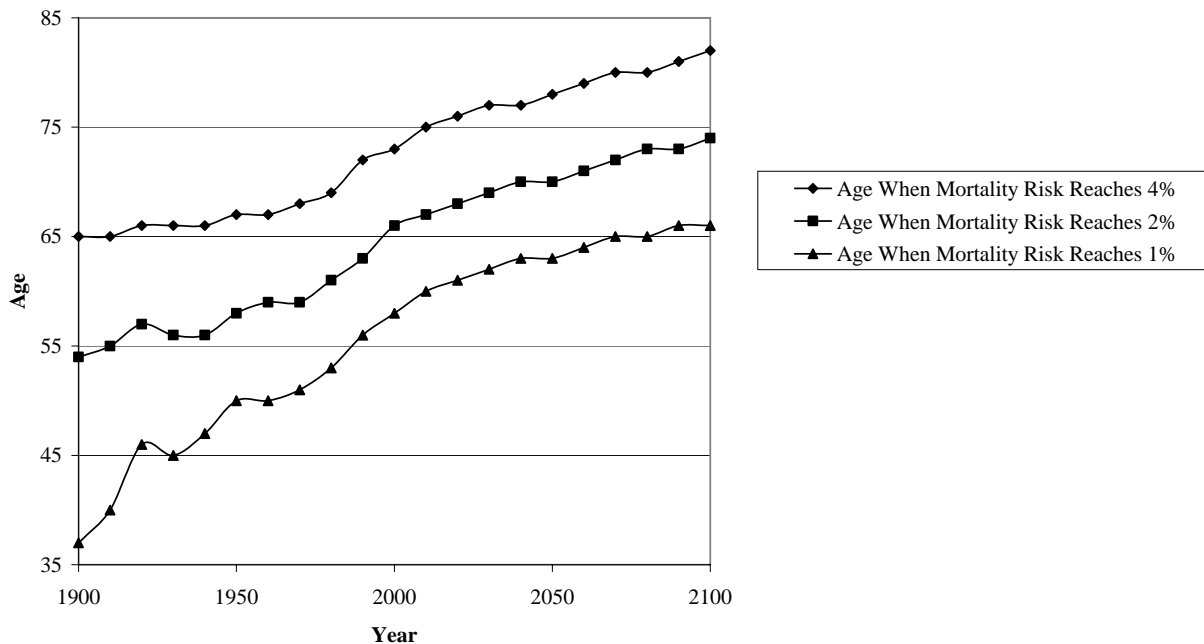- Age When Remaining Life Expectancy Falls Below 15 Years

Source: Felicitie C. Bell and Michael L. Miller, *Life Tables for the United States Social Security Area 1900-2100*, Social Security Administration, Office of the Chief Actuary, Actuarial Study No. 120 (2005), table 6.

b.   Mortality Risk

Alternatively, the optimal retirement age could be tied to mortality risk, defined as the risk of death at a given age. For example, policymakers could define the optimal retirement age as the age at which an individual's mortality risk is first equal to, say, at least 2 percent. In that regard, Figure 9 shows how the mortality risk for males has and

28

will change from 1900 to 2100. Pertinent here, the middle series shows the age when a male's mortality risk first exceeded 2 percent rose from age 54 in 1900, to 59 in 1950, to 66 in 2000 and to 67 in 2010; and it is expected to increase to 70 in 2050 and 74 in 2100. Consequently, if this approach were adopted, normal retirement could be set at 67 in 2010 and gradually increase to 74 by 2100.

Figure 9. Age of Mortality Milestones for Men, 1900-2100

c.   A Constant Ratio of Worklife to Retirement

A third approach would be to define the optimal retirement age by allocating a fixed percentage of each adult's life between her working years and her retirement years. One possibility would be to set the optimal retirement age so that individuals are expected to spend three-quarters of their adult lives working and one-quarter in retirement. For example, if we assume that people start working at age 20 and die at age 80, they would be expected to work 45 years and be retired for 15 years, implying a retirement age of 65. Of course, the retirement age would increase as life expectancies increased.

A more realistic approach might be to set the optimal retirement age so that individuals are expected to spend 80 percent of their adult lives working and 20 percent in retirement. For example, if we assume that people start working at age 20 and die at age 80, they would be expected to work 48 years and be retired for 12 years, implying an optimal retirement age of 68. Again, the retirement age would increase as life expectancy increases. For example, Figure 10 shows the remaining life expectancy for males at ages 20 for cohorts born from 1900 to 2100.[68] Figure 10 also shows the projected retirement age that would result if 80 percent of a 20-year-old's adult life is spent working and the remaining 20 percent is spent in retirement.[69] Consequently, if this approach were adopted, normal retirement age might start at 65 for the baby boom cohort born in 1950 and turning 20 in 1970 (and 65 in 2015) and gradually increase to about 74 for the cohort born in 2100 (and turning 74 in 2174).

---

[68] For example, the remaining life expectancy at age 20 for a man born in 1950 and turning age 20 in 1970 is 56.13 years.

[69] Mathematically, the projected retirement age (RA) for each cohort is equal to 20 plus 80 percent times that birth cohort's remaining life expectancy at age 20 (RLE20):

$$RA = 20 + (0.80 \times RLE20).$$

For example, given the 56.13-year remaining life expectancy for a man born in 1950 and turning 20 in 1970, he should expect to work almost 45 years ($44.904 = 0.80 \times 56.13$), and his retirement age should be around 65 ($64.904 = 20 + 44.904$).

Figure 10. Projected Retirement Age If Individuals Work 80% of Their Adult Lives, 1900 to
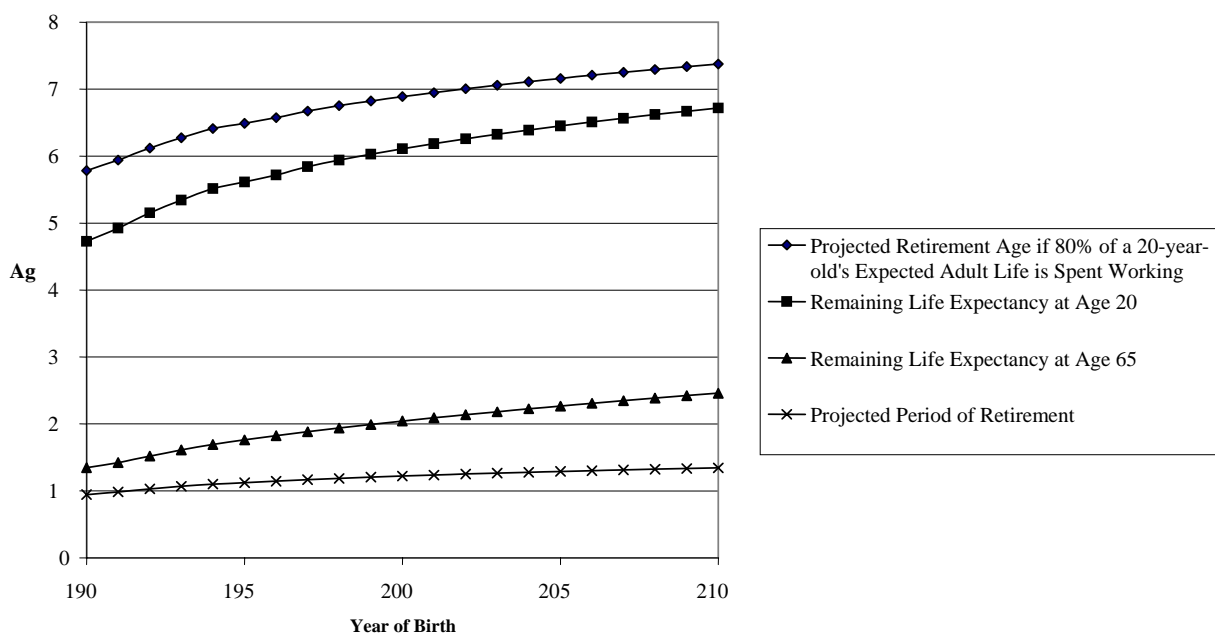
Source Felicitie C. Bell and Michael L. Miller, *Life Tables for the United States Social Security Area 1900-2100* (Social Security Administration, Office of the Chief Actuary, Actuarial Study No. 120, 2005), table 7.

Figure 10 also shows the remaining life expectancy for males at age 65 for cohorts born from 1900 to 2100 and the projected period of retirement that would result if 20 percent of a 20-year-old's adult life is spent in retirement.[70] Pertinent here, those who actually live from age 20 until their projected retirement age will actually experience retirement periods approximately equal to their remaining life expectancy at that time. For example, a male born in 1950, who turned 20 in 1970 and who lives until his projected retirement age of 65 is likely to have an actual retirement period somewhere between the 11-year projected period of retirement for his birth cohort in Figure 10 and the 17.62-year remaining life expectancy projected for the members of his birth cohort that actually reach actually reach age 65 (in 2015). If so, he would, in fact, work around

---

[70] Mathematically, the expected period of retirement (RP) for each cohort is equal to 20 percent times that birth cohort's remaining life expectancy at age 20 (RLE20):

   RP = 0.20 × RLE20.

For example, given that a 20-year-old man in 1970 had a remaining life expectancy of 56.13 years, he should, at age 20, have expected to have a period of retirement of about 11 years (11.226 = 0.20 × 56.13). Of course, those who actually live to be 64.904 years old and retire at that age will, on average, have remaining life expectancies *at that time* that are much longer than 11.226 years, and so those that live until their retirement age would actually have somewhat longer retirements.

45 years (from 20 to 65) and have almost 18 years of retirement (from 65 to 83), and he would actually spend over 28 percent of his adult life in retirement.[71]

We could, of course, spin endless possible variations on this constant-ratio-of-work-to-retirement approach. In that regard, going all the way back to 1900, as Figure 10 does, may not be all that relevant. We could instead assume that the Social Security system got it about right when it set the full retirement age at 65 for beneficiaries retiring in 1940, and then we could ask how the full retirement should have increased since then. Pertinent here, the Social Security Administration periodically estimates "equivalent retirement ages" for years after 1940, based on a measure that keeps constant the ratio between work and retirement years as life expectancy increases. For example, column 2 of Table 8 shows that if we assume that the Social Security system got it about right when it set the full retirement age at 65 for beneficiaries retiring in 1940, then the full retirement age should now be around age 70, and it should reach age 73 by 2070.[72] Needless to say, we are a long way from those optimal full retirement ages.

---

[71] 0.2857 = 18 years of retirement/ 63 years of adult life; 63 years of adult life = 45 years of work as an adult + 18 years of retirement.

[72] More specifically, the Social Security Administration estimates keep constant the ratio of the life expectancy at the age of retirement to the working-life expectancy (the number of years between age 20 and the normal retirement age). Assuming that individuals started work at 20, they would have had 45 years in the work force by the age 65 full retirement age in 1940, and the remaining life expectancy of a 65-year-old in 1940 was 12.71 years. Office of the Chief Actuary, Social Security Administration, *Life Expectancy and Ratio of Life Expectancy to Potential Working Years* (Memo, Sept. 16, 2004). Consequently, the ratio of life expectancy to (retirement age – 20) in 1940 was .2824. See also Chen, *above* note 1, 411–412, 412 (table 2), and see Felicitie C. Bell and Michael L. Miller, *Life Tables for the United States Social Security Area 1900-2100* (Social Security Administration, Office of the Chief Actuary, Actuarial Study No. 120, 2005), table 6.

Table 8. <u>Retirement Age for Year Equivalent to Age 65 in Base Year (Years: Months)</u>

	Base year			
Year	*1940*	*1980*	*2000*	*2020*
1940	65:00			
1960	67:00			
1980	68:11	65:00		
1990	69:08	65:09		
2000	69:11	66:00	65:00	
2010	70:02	66:04	65:04	
2020	70:09	66:11	65:10	65:00
2030	71:03	67:05	66:05	65:06
2040	71:10	67:11	66:11	66:00
2050	72:03	68:05	67:04	66:06
2060	72:09	68:10	67:09	66:11
2070	73:02	69:03	68:02	67:04
2080	73.07	68:08	68:07	67:09

Note: Retirement age is defined as life expectancy at retirement divided by years in labor force where entry into labor force is assumed to be age 20.
Source: Office of the Chief Actuary, Social Security Administration, *Life Expectancy and Ratio of Life Expectancy to Potential Working Years* (Memo, Sept. 16, 2004).

d.   Gender Issues

As Table 1 and Figure 4 both show, women live longer than men. At any given age, women have a longer life expectancy and a lower mortality risk. That means that if we actually based normal retirement age on remaining life expectancy or mortality risk, men and women in the same cohort would face different normal retirement ages, and women would be expected to work longer than men. For example, a recent study by the Social Security Administration projects that a 65-year-old man in 2010 will have a remaining life expectancy of 16.4 years, compared to 19.1 years for a 65-year-old woman.[73] While it obviously could make sense for women to work longer in order to accumulate the greater retirement savings that they may well need to support themselves throughout their expected longer lives, we view it as unlikely that government policy will ever again mandate a different retirement age for men and

---

[73] Felicitie Bell and Michael Miller, *Unisex Life Expectancies at Birth and Age 65* (Social Security Administration, Office of the Chief Actuary, Actuarial Note No. 2004.2, 2004), table 1.

women, let alone a higher age for women than for men.[74]

The obvious solution would be to use unisex tables. For example, if we were to tie the optimal retirement age to remaining life expectancy, we would use a unisex table of remaining life expectancy. For example, according to the study referred to in the preceding paragraph, the unisex life expectancy for a 65-year-old American in 2010 is projected to be 17.8 years.[75] Under this approach, if we wanted to fix the optimal retirement age in 2010 as the age at which an individual's remaining life expectancy is equal to, say, 15 years, we would end up setting the normal retirement at around 69½, about halfway between the ages at which the remaining life expectancies of males (68) and females (71) fall below 15 years.[76]

6.   Implications for Public Policy

Clearly, life expectancies have increased significantly since the retirement age policies in our voluntary pension system (and Social Security system) were first codified into law, and only minor changes have been made since. We are concerned that current policies may reflect too much deference to employer desires and to the short average retirements of yesteryear. We need to develop a new notion of the optimal retirement age, given what we now know about longevity, health and work in old age, and about how pension policy influences individual decisions about the timing of retirement. This section outlines a number of pension policy changes that could encourage American workers to postpone retirement.

a.   Some Modest Pension Reforms that Could Encourage American Workers to Postpone Retirement

i.   *Raise the Early Retirement Age Applicable to the Penalty on Premature Withdrawals*

Internal Revenue Code § 72(t) generally imposes a 10 percent tax on pension distributions made before an individual reaches age 59½. It would make sense to raise

---

[74] Pertinent here, the Social Security systems in many countries provide lower retirement ages for women than for men. For example, in Albania, Austria, Greece, Isle of Man and Italy the statutory pension age for men is 65, while the statutory pension age for women is 60. Social Security Administration, *Social Security Programs Throughout the World: Europe, 2006* (Washington, D.C.: Social Security Administration, Publication No. 13-11801, 2006), table 3. The U.S. Social Security system also allowed women to draw early retirement benefits at age 62 starting in 1956, while men did not become eligible for those early retirement benefits until 1961. Social Security Administration, *Annual Statistical Supplement to the Social Security Bulletin, 2007* (Washington, D.C.: Social Security Administration, Publication No. 13-11700, 2008), table 2.A2.

[75] Bell and Miller, *Unisex Life Expectancies at Birth and Age 65*, *above* note 73.

[76] Bell and Miller, *Life Tables for the United States Social Security Area 1900-2100*, *above* note 72, table 10.

the eligibility age to 62, the age at which individuals first become eligible to draw their Social Security benefits. It could also make sense to then index that earliest eligibility age for longevity. In that regard, a recent study suggested that if the earliest eligibility age for Social Security benefits had kept up with increases in longevity since 1961, it would have already reached age 63½ by now.[77] Of course, if we raised the early retirement age for pensions or Social Security, we would need to make sure to have Social Security Disability Insurance and/or Supplemental Security Income benefits available to those elderly Americans who become disabled when they are still too young to claim their Social Security retirement and pension benefits.[78]

It could also make sense to toughen the penalty on premature withdrawals, by, for example, increasing the penalty tax rate from 10 percent to, say, 20 percent.

ii. Raise the Normal Retirement Age

Along the same lines, it would make sense to raise the normal retirement age for pensions. ERISA generally defines "normal retirement age" as the earlier of the time specified in the plan or age 65. On the other hand, "full retirement age" under the Social Security system is already 66 (in 2008) and is gradually increasing to 67. It could make sense to gradually increase the normal retirement age for pension plans to 67 and tie it to Social Security's full retirement age, even if that full retirement age is further increased by way of "longevity" indexing.[79] The empirical evidence suggests that increasing the normal retirement age would encourage workers to stay in the workforce longer.[80]

---

[77] John A. Turner, *Promoting Work: Implications of Raising Social Security's Early Retirement Age* (Boston, Mass.: Center for Retirement Research at Boston College, Work Opportunities for Older Americans Series, Paper No. 12, 2007). Another recent paper suggests that the earliest eligibility age should vary depending upon such factors as the worker's health, risk of hardship and earnings. Natalia Zhivan, Steven A. Sass, Margarita Sapozhnikov and Kelly Haverstick, *An "Elastic" Earliest Eligibility Age for Social Security* (Boston, Mass.: Center for Retirement Research at Boston College, Issue in Brief No. 8-2, 2008).

[78] See also Kelly Haverstick, Margarita Sapozhikov, Robert Triest and Natalia Zhivan, *A New Approach to Raising Social Security's Earliest Eligibility Age* (Boston, Mass.: Center for Retirement Research at Boston College, Working Paper No. 2007-19, 2007) (suggesting an increase in the Social Security early eligibility age for most workers but leaving it unchanged for those with the highest risk of suffering hardship due to a delay in benefit eligibility).

[79] We note in passing that we really could call age 70 the "full retirement age" for Social Security as monthly benefits are actuarially increased for those who delay taking benefits until then. Even this simple change in nomenclature could lead many workers to delay retirement past their so-called full retirement ages of 66 and 67 under current law.

[80] *See*, *e.g.*, Henry Aaron, *Should Policy Be Designed to Encourage Later Retirement?* (paper presented at the first annual Joint Conference for the Retirement Research Consortium, Washington, D.C., May 20, 1999).

iii.   Raise the Minimum Distribution Age

Internal Revenue Code § 401(a)(9) generally requires participants in retirement plans to begin taking distributions soon after they reach age 70½. Failure to take the required minimum distributions can result in a 50 percent excise tax penalty on the excess of the amount required to have been distributed over the amount that actually was distributed.[81] In addition, a plan that fails to make the required minimum distributions can be disqualified. Admittedly, most elderly Americans retire long before they reach age 70½. Still, raising the minimum distribution age to say, 75 or 80, could help encourage some elderly workers to remain in the workforce.

iv.   Repeal the Age Discrimination Exceptions

The Age Discrimination in Employment Act (ADEA) outlawed mandatory retirement. The Act generally prohibits employers from discriminating against workers over the age of 40, and since 1988, employers have been prohibited from ceasing benefit accruals for employees who work beyond age 64 and from excluding participants who are hired within five years of normal retirement age. While ADEA clearly forbids a cessation of benefit accruals or a reduction in the rate of benefit accruals because of age, it does not automatically prohibit benefit reductions that correlate with age. In fact, various exceptions expressly allow retirement plans to limit the total amount of benefits or the total number of years used to compute benefits. We should consider repealing virtually all these exceptions to the age discrimination rules.[82]

v.   Require that Benefits be Paid as Indexed Annuities

Older workers typically underestimate their life expectancies, overestimate their financial ability to meet their future retirement income needs and fail to understand the deleterious effects of inflation. Consequently, they often choose to retire too early, and they often choose to take lump sum distributions or scheduled withdrawals, rather than lifetime annuities. What looks like adequate pension savings at age 55, 62 or even 65 may not be enough to live on at age 80 when work is not a likely option and savings have been depleted. The government could combat this myopic decision-making by requiring retirement plans to pay benefits in the form of annuities, perhaps even indexed-for-inflation annuities.

---

[81] I.R.C. § 4974.

[82] For more detail, see Forman, MAKING AMERICA WORK, *above* note 58, at 236–237.

vi.   *Require that Pension Benefits be Paid to Part-time Workers*

ERISA currently permits employers to design their plans to exclude at least 30 percent of their full-time workers who are not highly compensated, and, in addition, employers can usually exclude all of their part-time workers.[83] The net effect is that relatively few older part-time workers earn pension benefits—benefits that they will need for their eventual retirement. The government could solve this problem by tightening the employee coverage, participation and vesting rules. Specifically, employers should be required to cover virtually all employees who have completed a short period of service, and the number of hours of service required for coverage, participation, vesting and benefit accrual purposes should be reduced from 1,000 hours per year to no more than 250 hours per year.[84]

b.   A More Comprehensive Proposal: Mandate Age Neutrality

A more comprehensive approach would be for the government to encourage, or even mandate, age-neutral pension policies. Under an age-neutrality mandate, presumably, benefits would accrue at a constant annual rate, like they do now in the typical defined contribution plan. Indeed, the typical defined contribution plan could easily satisfy an age-neutrality mandate. For example, a simple defined contribution plan might provide that an employee is entitled to a contribution of 10 percent of salary each year and that accumulations earn a market rate of return. Such a plan does not impose financial penalties on those who keep working past some arbitrary retirement age.

On the other hand, most defined benefit plans could not meet an age-neutrality requirement. For example, traditional final-average-pay plans have backloaded benefit-accrual formulas and often cease benefit accruals after 30 years of service.[85] Indeed, among defined benefit plans, only cash balance plans could easily meet an age-neutrality requirement. Like defined contribution plans, cash balance plans have individual accounts, albeit hypothetical, and like a simple defined contribution plan, a

---

[83] See, e.g., I.R.C. § 410(b) (permitting a plan to benefit just 70 percent of its employees who are not highly compensated); I.R.C. § 410(a)(3)(A) (allowing plans to ignore years in which workers work less than 1,000 hours for purposes of the minimum participation rules); and I.R.C. § 411(a)(5) (allowing plans to ignore years in which workers work less than 1,000 hours for purposes of the minimum vesting rules).

[84] See, e.g., David Pratt, *Retirement in a Defined Contribution Era: Making the Money Last*, 41(3) JOHN MARSHALL LAW REVIEW 1091 (2008).

[85] Pertinent here, Ron Gebhardtsbauer recently suggested to us that traditional final-average-pay plans and career-average-pay plans would provide more age-neutral benefit accruals to workers who quit before retirement if those plans indexed benefits for inflation between the quit date and the retirement date. Congress should think about encouraging or, perhaps, even mandating such post-termination, inflation-indexing.

cash balance plan that provided wage credits of, say, 10 percent of salary each year and credited account balances with interest at the market rate would be age neutral.[86]

7. Conclusion

As is obvious to almost all observers, the graying of America is exerting pressure on Social Security, Medicare, Medicaid and the many other programs that benefit elderly Americans. It has been observed that "[e]ven if retirement ages were postponed in accordance with improving longevity, the old age dependency ratio would continue to increase, and it will do so quite substantially around the end of the first quarter of the 21st century."[87] It follows, therefore, that if we plan to weather the financial tsunami that will accompany the aging of the baby boom generation and beyond, we will need to find ways to encourage the elderly to keep working.

This paper has highlighted the weaknesses of defining old age as years-from-birth and of failing to index early and normal retirement ages for increases in longevity. This paper has also discussed a variety of alternative approaches for tying retirement age to some measure of years-until-death. All in all, we believe that tying the early and normal retirement ages to longevity improvement would be beneficial to workers, to government and to employers. Indexing retirement age for longevity would encourage workers to work longer and accumulate more savings so that they have higher incomes when they eventually retire, it would help the government raise revenues and reduce its expenditures for its social welfare outlays, and it would help employers stave off the labor shortages that could occur if large numbers of talented baby boomers choose retirement over work. Changes are clearly needed, and the sooner the better.

---

[86] See also Richard W. Johnson, Gordon Mermin and C. Eugene Steuerle, *Work Impediments at Older Ages* (Washington, D.C.: The Urban Institute, Retirement Project Discussion Paper 06-02, 2006) (noting that making it easier for employers to convert their traditional defined benefit plans to cash balance plans would help eliminate work disincentives from their plans).

[87] Chen, *above* note 1, at 413.