

Extending Work Life

Can Employers Adapt When
Employees Want to Delay Retirement?



Robert Clark and Melinda Sandler Morrill

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Employer Interests and Concerns

Robert Clark
Melinda Morrill

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Chapter 1

Employers' Perspectives on Delayed Retirement

Many policy analysts, economists, and demographers have argued that individuals must extend their work lives if they are to achieve their desired standard of living in retirement. Increases in longevity imply that individuals who leave the labor force at traditional retirement ages must either save more during their working careers or consume less during their retirement. Reductions in the generosity of employer- and government-funded retirement programs exacerbate this problem. Thus, workers today must save more than their predecessors to achieve the same level of retirement well-being. The idea seems clear—working longer and retiring later is the only way future retirees can sufficiently finance their retirement.

Later retirement can be achieved by remaining in one's career job until an older age. Alternatively, individuals can retire but not immediately leave the labor force. Instead, they can begin a retirement transition that includes moving through different types of employment; for example, an employer could offer shorter hours or a less stressful working environment.

Despite the logic that working longer is needed to support more years in retirement, relatively few studies have directly addressed employer interests and the constraints that might lead companies and organizations to resist delayed retirement from career jobs. This book seeks to fill this gap by providing a comprehensive assessment of the costs and benefits to employers of accommodating later retirement ages. Employers that oppose later retirements could adopt employment and compensation policies to impede or limit workers' opportunities to remain on the job.

Economic theory based on profit maximization indicates that companies must determine the optimal number of workers to hire and also the appropriate age and skill composition of their workforces. The

firm will need a mix of employees with different skill sets and skill levels and who have different vintages of human capital. To maximize profits, companies need the right number and the optimal mix of workers. Changes in the age structure of a company's workforce due to delayed retirement can affect labor costs, productivity, profitability, and sustainability. In the following chapters, we argue that companies develop their compensation policies in order to attract, retain, motivate, and ultimately retire their desired workforces.

Increased life expectancy and associated modifications to public and private retirement-related policies will lead workers to alter their career paths. Desired increases in the duration of work life can come in several forms as workers experience new pathways from full-time work to complete retirement. That transition has become an important phase of work life. Indeed, how this transition is made, and whether it is done successfully, will affect an individual's well-being throughout retirement.

Changes in government policy that increase eligibility ages for retirement benefits, coupled with increased life expectancy and the continuing evolution of employer retirement programs, will lead many workers to try to extend their work lives by delaying the onset of complete retirement. With the exception of the economic downturn during 2007–2009, labor force participation rates of persons 65 and older have been steadily climbing since the mid-1980s. One method of extending work life is to delay the start of the transition to retirement and simply work longer at the current job. Alternatively, workers could prolong the transition period from full-time work to full retirement by including intermediate work-related steps, such as phased retirement, bridge jobs, or self-employment.¹

Whether workers delay the start of the transition, increase the time spent in transition, or increasingly take alternative paths from career job to retirement, employers must consider the advantages and costs of retaining or hiring older workers. The expanding potential labor pool of older workers, particularly among those with relatively high stocks of human capital, could provide an unexpected bonus to employers through greater returns on their investment in long-term

employees. However, older workers often are relatively highly compensated, and some will experience diminished productivity at older ages. Furthermore, as employers retain older workers, younger workers' opportunities for advancement might be restricted.

Employers must address the changing demographics in their workforces. By creating compensation and employment policies to accommodate prolonged or delayed retirement transitions, they will be better positioned to reap the benefits of employing older workers.

This book examines the employer perspective on how to respond to the needs and desires of older workers to delay or prolong the transition from full-time employment to complete retirement. What factors influence the willingness of firms to retain older workers? Can firms develop transitional employment contracts so workers can shift to new areas, perhaps with less responsibility and lower compensation, while remaining with their career employers? While exploring the bottlenecks and constraints that might inhibit the development of delayed retirement policies, this book provides new insights into how retirement transitions might proceed in the coming years and the potential implications and effectiveness of government and employer policies regarding retirement ages.

EMPLOYEE PREFERENCES FOR LATER RETIREMENT

Retirement decisions are influenced by economic and demographic factors, including real income, personal savings, health and family issues, job opportunities, and retirement plans, such as employer pensions and Social Security. As these determinants have changed over time, so has the average age of retirement. For most of the twentieth century, the labor force participation rate of older persons declined in response to rising real incomes, improving health, changes in the physical demands of many jobs, the introduction of defined benefit pension plans, and the establishment and liberalization of Social Security and Medicare. Earlier retirement coupled with

increasing life expectancy placed a premium on planning and saving for retirement.

In the mid-1980s, the proportion of older persons who remained in the labor force began to increase. This reversal of a long-term trend toward earlier retirement began as employers switched from defined benefit to defined contribution plans, which have very different retirement incentives. In addition, changes to Social Security also encouraged later retirement.² Finally, the continued increase in life expectancy at older ages made financing a longer period of retirement increasingly difficult. All these factors have encouraged older workers to remain in the labor force and delay retirement.

For most of the twentieth century, increasing life expectancy coincided with a decline in the age at which most people permanently left the labor force. Rising real income, along with the development of employer pensions and national retirement programs, made retirement possible for millions of American workers; it became an important phase in life. Workers planned for retirement and made saving and consumption decisions in order to achieve their desired standard of living during their final years.

Increase in Life Expectancy and the Need for Working Longer

The number of years of expected retirement is determined by the age of retirement and the life expectancy at the retirement age. For example, if a worker enters the labor force at age 20, expects to retire at age 65, and has a life expectancy at age 65 of 15 years, the individual has 45 years of work to accumulate the resources to finance 15 years of retirement. However, if the expected retirement age fell to 60 and life expectancy at age 60 increased to age 85, the individual would have 40 years of work to save for 25 years in retirement. Of course, these changes would require a much higher annual saving rate in order to finance the same standard of living in retirement. In contrast, delaying retirement increases work and saving years while decreasing the number of retirement years that need to be supported.

Next we consider some actual changes in life expectancy and their impact on retirement decisions.

As shown in Table 1.1, male life expectancy at age 65 increased by 3.9 years between 1980 and 2014—from 14.1 years to 18.0 years. Females continue to have more years of expected life remaining at age 65; however, the gender difference in life expectancy declined from 4.2 years in 1980 to 2.5 years in 2014. Holding the age of retirement constant with rising life expectancy means more years in retirement. Thus, in order to finance the same level of annual consumption in retirement with the longer life expectancy, workers must save more while working.

To illustrate the magnitude of the need for additional saving, let us consider a male worker retiring at age 65 with 14 years of remaining life who has saved \$250,000 to help finance his retirement. Assume that he purchases a life annuity that provides a fixed income per year until death. With an assumed life expectancy of 14 years and using a 3 percent interest rate, column 1 in Table 1.2 shows that he could anticipate annual income of \$22,132. Now consider a similar retiree with 18 years of expected life remaining. Based on the additional years of payouts, the same \$250,000 account balance would provide only \$18,177 per year of income. Table 1.2 also shows how the annual

Table 1.1 Life Expectancy at Birth and Age 65, by Gender

Year	Men		Women	
	Birth	65	Birth	65
1970	67.1	13.1	74.7	17.0
1980	70.0	14.1	77.4	18.3
1990	71.8	15.1	78.8	18.9
1995	72.5	15.6	78.9	18.9
2000	74.1	16.0	79.3	19.0
2005	75.0	16.9	80.1	19.6
2010	76.2	17.7	81.0	20.3
2014	76.4	18.0	81.2	20.5

SOURCE: National Center for Health Statistics (2015).

payout will continue to decline to only \$16,804 if life expectancy at age 65 rises to 20 years.

Column 2 in Table 1.2 demonstrates the impact of rising life expectancy in a slightly different manner. Assume that the individual wishes to have sufficient resources to have an annual income of \$25,000 from her retirement savings. With a life expectancy of 14 years, the worker would need to have saved \$282,402 in order to have income of \$25,000 per year; however, if the number of expected retirement years rises to 18, the worker must have an account balance of \$343,838.³ These examples show that, holding constant the retirement age, rising life expectancy requires either greater saving to achieve a desired annual income or for the worker to accept a lower standard of living in retirement if lifetime saving is unchanged. Alternatively, individuals could choose to work longer and delay retirement, thus offsetting the longevity gains by more years of work. Working longer may be the optimal response to longevity gains for many individuals, and how this preference for delayed retirement affects firms is the central focus of this book.

Table 1.2 Impact of Longevity Gains on Retirement Income (\$)

Years of remaining life	(1)	(2)
	Account balance of \$250,000 provides annual payout of	Account balance needed to yield annual distribution of \$25,000
14	22,132	282,402
15	20,942	298,448
16	19,903	314,028
17	18,988	329,153
18	18,177	343,838
19	17,453	358,095
20	16,804	371,937

NOTE: Values are determined using a 3 percent interest or discount rate, with annual payments occurring at the end of each year. The values shown in column (1) indicate the annual payout from an account balance of \$250,000 for the indicated number of years. The values shown in column (2) indicate the account balance needed to provide an annual payout of \$25,000 throughout retirement.

SOURCE: Authors' calculations.

The challenge is that workers must save more and consume less while working or be satisfied with lower income and hence consumption in retirement. An alternative to these choices is to work longer and delay retirement. Working longer means the individual has more years of earnings and saving. It also allows additional years of compounding returns on retirement saving. Later retirement also implies fewer years in retirement over which these funds will be drawn down.

Employee Benefits and Retirement Incentives

Employers are moving away from defined benefit pension plans in favor of defined contribution plans, such as 401(k) plans. Defined benefit plans promise retirees a monthly benefit for life; therefore, increases in life expectancy increase the present value of retirement benefits and, of course, increase the cost to the employer.⁴ While the real value of pension benefits will decline with inflation, the nominal monthly benefit will continue at the same rate throughout the longer retirement period. Thus, retirees with a defined benefit pension are exposed to inflation risk if cost of living adjustments do not adequately increase the real value of the benefit.

Pension plan participants who have reached the normal retirement age must decide whether they want to retire and start their benefits or work an additional year. The extra year of work will increase subsequent pension benefits, but the individual typically will not receive benefits during this time. Thus, the worker can compare the gain of marginally higher future benefits for the remainder of life to the loss of the current year's benefit. Increases in life expectancy will have a rather small effect on the employee's calculation of optimal retirement age.

In contrast, workers covered by a 401(k) plan must decide how to use the account balance in their retirement plans. Assume that this balance is used to purchase a life annuity. Holding constant the retirement age and the account balance, increases in life expectancy will reduce the annual payout from the annuity. The 401(k) participant

can consider the possibility of working an additional year and thus postpone the purchase of the annuity. The individual is not giving up a year of benefits by postponing retirement but instead is simply able to purchase a larger annuity the following year. By working an extra year, not only does the account balance grow but the number of years in retirement is also reduced, so the payout from the annuity will rise. In general, increases in life expectancy for participants in defined contribution plans are likely to provide a greater incentive for individuals to remain in the labor force.

This discussion illustrates how the change from defined benefit plans to defined contribution plans has altered retirement incentives and encouraged individuals to remain on the job. Over the past 75 years, changes in employer compensation and employment policies first contributed to the decline in the average age of retirement and then provided additional incentives for individuals to want to remain on the job until older ages.

Social Security Reforms and the Value of Delayed Claiming of Benefits

Most American workers are covered by Social Security, and many retirees receive a significant portion of their household income from Social Security.⁵ An important determinant of the annual benefit is the age at which benefits are begun or the claiming age for Social Security. Over the years, the age for “full benefits” and the value of delaying claiming have increased. For individuals born between 1943 and 1954, current rules state that the age for full retirement benefits is 66.⁶ At this age, individuals claiming benefits will receive 100 percent of their primary insurance amount (PIA).⁷ Alternatively, workers can claim “early” benefits at age 62. However, when individuals claim benefits prior to age 66, their monthly benefits are reduced by five-ninths of 1 percent per month for the first 36 months and five-twelfths of 1 percent for each additional month. Delaying claiming benefits until after age 66 increases benefits by 8 percent per year up to age 70. To illustrate the impact of these rules, assume that if benefits are

begun at the full retirement age of 66, the monthly benefit will be \$1,000. If benefits are claimed at 62, the earliest age of eligibility, the monthly benefit is only \$750, or a 25 percent reduction in monthly benefits for the rest of one's life. Despite these penalties for early claiming, almost half of all individuals claim benefits at age 62.⁸

There is also a delayed retirement credit of 8 percent per year for individuals who postpone claiming benefits until age 70. If a claimant who expects a benefit of \$1,000 at age 66 postponed claiming benefits until age 70, the monthly benefit would increase to \$1,320 per month. When claiming benefits at age 70 compared to 62, the monthly benefit is 76 percent greater.⁹ On average, the present value of benefits is approximately the same regardless of when the benefits are started (Social Security Trustees 2014). However, one should note the substantial difference in monthly benefits based on the age at which a person claims benefits.

Recent studies have argued that, under current law, the expected present value of lifetime Social Security benefits rises as claiming is postponed for each month after the individual reaches age 62. Shoven and Slavov (2014a,b) illustrate that, for most households, delaying the start of Social Security benefits results in a higher lifetime present value of these benefits. They also point out that the gain in lifetime benefits with delayed claiming has been increasing because of changes in Social Security rules (e.g., an increase in the delayed retirement credit after the full retirement age), lower real interest rates, and increases in life expectancy for individuals in their sixties. Shoven and Slavov (2013, p. 1) state, "With today's life expectancies and today's extremely low interest rates, it is in almost everyone's interest to delay the commencement of Social Security. For many people, delaying to 70 is the value maximizing strategy."¹⁰

The age at which an individual claims her Social Security benefits has a major impact on her annual income in retirement. While claiming benefits does not require one to stop working, many individuals would find it difficult to leave the labor force and not claim Social Security benefits. Clearly, changes in age-related rules governing

benefits have increased incentives for individuals to continue working and delay claiming benefits. Increases in life expectancy holding the age rules constant only strengthen the incentive to delay claiming. When developing and modifying their own retirement policies in an effort to achieve the desired workforce, employers must consider the impact of policy reforms and their effect on worker behavior.

Working Longer Because of Health Concerns, the Cost of Health Insurance, and the Decline in Employer-Provided Health Insurance in Retirement

An important component of a secure retirement is access to affordable health care. As individuals age, they face an increased risk of having a costly adverse health event. They must accumulate sufficient wealth to be prepared for the possibility of extensive and expensive medical treatment. Medicare provides basic coverage for most individuals aged 65 and older but does not cover expenses for chronic conditions and treatments, including long-term care. Individuals who are poor or disabled may qualify for Medicaid as a secondary payer. Some research has considered why individuals do not purchase long-term-care insurance at higher rates and whether Medicaid crowds out private long-term-care insurance (e.g., Brown, Coe, and Finkelstein 2007).

Workers without access to health insurance in retirement might postpone retiring until they are eligible for Medicare (e.g., Mermin, Johnson, and Murphy 2007). Conversely, recent research has documented a strong link between employer-provided retiree health insurance and earlier retirement ages (e.g., Fitzpatrick 2014; Robinson and Clark 2010; Shoven and Slavov 2014c).

Access to health insurance can alter retirement timing, and employer-provided retiree health insurance may be an important aspect of retirement transitions. While providing retiree health insurance may be an effective strategy for employers to encourage earlier retirements, it is a costly benefit that is rapidly disappearing. The Kaiser Family Foundation and the Health Research and Educational Trust

(2015) report that only 23 percent of firms with 200 or more workers that offer health benefits to their active employees extend this coverage to retirees—down from 66 percent in 1988. The rising cost of health care at older ages, along with the decline in employer-provided retiree health insurance, has made early retirement costlier and influenced workers to delay leaving their career jobs. If the promise of health insurance in retirement encourages workers to retire before age 65, then employer decisions to eliminate this benefit may provide an incentive for workers to remain on the job. This analysis highlights a dilemma that confronts employers—the need to control the costs of health care associated with early retirement without adversely affecting the desired retirement ages of their workers.

The Increasing Labor Force Participation of Older Persons

Through most of the twentieth century, the average age of retirement declined despite increases in life expectancy.¹¹ This reduction in labor force participation among older persons has been attributed to rising per capita income (Costa 1998), the enactment of Social Security, and the spread of employer pensions (Quinn, Burkhauser, and Myers 1990). The labor force participation rates of men 65 and older fell from about 46 percent in 1950 to about 16 percent by the mid-1980s (Toosi 2002). However, during the past two decades this trend has reversed, and the proportion of the older population in the labor force has increased.

Between 1994 and 2014, there have been substantial changes in the proportion of older men in the labor force. Table 1.3 illustrates the increase in the labor force participation rates of older men and women. The largest changes for men have been for individuals aged 62 and older. The rate for men aged 62–64 increased from 45.1 percent to 56.2 percent during this period, while the rate for men aged 65–69 rose from 26.8 percent to 36.1 percent. Even the rates for men aged 70–74 increased substantially, from 15.8 to 22.8 percent. Participation rates for women followed a similar pattern; however, the increases were greater for younger women. The proportion of women

Table 1.3 Labor Force Participation Rates for Men and Women Aged 55 and Older (%)

Age	Men				Women			
	1994	2004	2014	2024	1994	2004	2014	2024
55–59	76.9	77.6	76.8	76.3	59.2	65.0	66.4	72.2
60–61	64.8	64.9	69.7	69.7	45.3	54.0	57.6	64.8
62–64	45.1	50.8	56.2	59.9	33.1	38.7	44.7	47.1
65–69	26.8	32.6	36.1	40.0	17.9	23.3	27.5	32.8
70–74	15.8	19.4	22.8	26.6	8.7	12.0	15.6	18.5
75 and older	8.6	9.0	11.0	13.5	3.5	4.3	5.9	8.4

SOURCE: Toosi (2015).

aged 55–59 who were in the labor force rose from 59.2 to 66.4 percent, and the rate for women aged 60–61 increased from 45.3 to 57.6 percent. The Bureau of Labor Statistics projects that the labor force participation rates for men 62 and older will continue to increase through 2024, while that of women aged 55 and older also is expected to increase over the next decade (Toosi 2015).

The aging of the population and these increases in labor force participation rates have resulted in a more than doubling of the number of workers aged 55 and older, from 15.5 million in 1994 to 33.9 million in 2014. Toosi (2015) reports that the proportion of the labor force aged 55 and over rose from 11.9 percent in 1994 to 21.7 percent in 2014. The growth in the relative size of the older labor force raised the median age of the labor force from 37.7 years in 1994 to 41.9 years in 2014. The rising share of the labor force composed of those 55 and older was driven by both the aging of the population and delayed retirement.¹² These trends in the aging of the labor force are expected to continue over the next decade.

Another indicator of changing retirement patterns is responses to survey questions concerning retirement expectations. Since 1991, Gallup has been asking workers at what age they expect to retire and retirees the age at which they retired. Reviewing their surveys through 2014, Gallup concludes that the self-reported age of retirement has moved “slowly upward.” According to Riffkin (2014), “Gallup con-

ducted several polls in the early 1990s and found that the average retirement age was 57 in both 1991 and 1993. From 2002 through 2012, the average hovered around 60. Over the past two years, the average age at which Americans report retiring has increased to 62.”

Changing Paths to Retirement

Prior research has documented the retirement transitions of individuals in the Health and Retirement Study (HRS) and illustrated the diversity of retirement choices that older Americans have made over the past two decades. The changing paths to retirement have been examined by Cahill, Giandrea, and Quinn (2006, 2011a, 2012, 2015) and Giandrea, Cahill, and Quinn (2008, 2009). These studies show the development of new transitions from career jobs to full retirement as individuals move to bridge jobs. Maestas (2010) shows the importance of returning to work after a period of being out of the labor force. While more than half of career employees in the HRS follow the traditional pattern of leaving a long-term job and entirely leaving the labor force, significant numbers of workers are choosing different steps from work to retirement. Some are choosing phased retirement, while others move to bridge jobs and self-employment.

The probability of each type of first transition varies by the individual's cohort and by the age at which the retirement transition begins. If an individual leaves her career employer at an older age, she is more likely to follow the traditional retirement pattern; if she leaves at a younger age, she is more likely to take an alternative path into retirement (Clark and Morrill 2015). The diversity of retirement paths reflects variation in worker preferences for continued employment and employers' willingness to retain or hire older workers. Changes in retirement paths highlight the need to understand why some employers are concerned with delayed retirement by career employees while other employers are willing to hire these same workers.

Greater incidence of moving from career jobs to bridge jobs raises the important question of whether this is due to employee preferences

or employer constraints. Individuals could be moving to new jobs in an effort to find lower-stress employment, shorter hours of work, or simply a change in type of work. However, this could also be because employers cannot or do not want to accommodate employees' preferences for restructuring employment conditions.

DELAYED RETIREMENT: IMPACT ON EMPLOYERS

It is clear that retirement transitions for career workers are changing. At the same time, employers may be resistant to delayed retirement or to creating alternative work arrangements for older workers. There has been too little research examining why firms may continue to want employees to retire at the traditional retirement ages. This analysis seeks to quantify potential cost and productivity differentials that influence employer concerns associated with delayed retirement. Chapter 2 examines the impact of delayed retirement on the cost and productivity of firms and institutions. When workers delay retirement from career jobs, the average age of employees rises. Employers must then consider how having older workers represent a higher proportion of their workforce might impact their productivity and production costs. When the age structure of the workforce changes, this will affect the prospects of promotion for early and midcareer workers. These changes may, in turn, inhibit an employer's ability to attract and/or retain new and midcareer employees.

Chapter 2 also discusses whether different factors affect the willingness of employers to hire older workers as compared to the reluctance of career employers to accommodate later retirement. These shifts in employers might involve changes in a worker's occupation, industry, hours of work, compensation, and level of responsibility. It is important to understand why these new employers are receptive to hiring older workers who have retired from their career employers. For example, new employers may find it easier to offer jobs with

new working conditions, responsibilities, and wage levels that are more suitable to older workers' skills and preferences. In comparison, career employers that try to modify existing terms of employment may be accused of violating age discrimination laws. In addition, new jobs may involve fewer hours, so employers may not have to provide certain benefits such as pensions, health insurance, and paid leave. Therefore, the hourly (total) compensation could be considerably lower than is possible in career jobs.

Chapter 3 considers the special cases of phased retirement and return-to-work employment contracts that allow older workers to remain with their career employers but with reduced hours and perhaps at lower ranks. Such changes might involve shifts in responsibilities and hourly compensation. One important constraint in an employer's ability to make these adjustments is federal retirement policies and age discrimination regulations. Do policies encourage or limit changes in compensation and working conditions that would result in greater use of phased retirement? An interesting observation is that phased retirement programs are widespread in higher education and are generally viewed as good for the institution as well as for the professor. The discussion explores why these policies are not viewed positively by employers in general.

Chapter 4 explores the role of government policies and regulations in the cost to firms of employing older workers and the ability of employers to modify employment contracts. Key policies include those that affect the value of Social Security, Medicare, Medicaid, and other programs to older persons and the retirement incentives embedded in these programs. Potential changes in government programs such as Social Security and Medicare may increase the need for income in retirement and thus encourage later retirement. We review possible amendments to these plans that could reduce the employment cost of older workers and hence decrease employer concerns about delayed retirement. State and federal age discrimination laws are then examined to identify how these policies affect the ability of employers to modify employment contracts to retain older workers.

Chapter 5 concludes with a discussion of the importance of considering the employer perspective on working longer. It is clear that demographic and economic changes will continue to provide incentives for individuals to remain in the labor force until older ages. An important question is whether employers will have the desire and ability to provide appropriate job opportunities to accommodate the desire for later retirement.

This book provides a comprehensive assessment of the costs and other issues that influence an employer's willingness to accommodate the desire of employees for delayed retirement. The analysis is based on economic theory along with evidence on age patterns of productivity and cost. We highlight policies and programs that could mitigate these concerns and thus reduce employer resistance to later retirement. The aging of the labor force and the rising proportion of persons aged 60 and over who seek to remain active in the labor force will provide economic and labor market pressures for employers to consider how best to accommodate delayed retirement.

Notes

1. In the economics literature, the term *bridge jobs* is used to denote jobs that older workers move to after leaving their career employers. This new employment can be full or part time and can be in similar or different industries compared to their career jobs.
2. These changes include raising the full retirement age, which is mathematically equivalent to reducing annual benefits and increasing benefit adjustment by delaying initial claiming of Social Security benefits. Shoven and Slavov (2014a,b) show the gain in lifetime benefits from late claiming of Social Security benefits.
3. This same example could be used to show how longevity gains will increase the cost to employers who provide defined benefit plans to their workers, as more years of payouts imply greater cost to the pension plan. The risk to the plan sponsor of rising life expectancy is one reason employers have shifted away from defined benefit plans and toward defined contribution plans. In defined contribution plans, the worker/retiree bears longevity risk.

4. Most defined benefit plans in the private sector are financed solely by employer contributions. Thus, increases in longevity, holding other plan characteristics constant result in higher employer costs. In contrast, public sector plans typically require employee contributions, which can be raised as plan costs increase.
5. Approximately one-quarter of all public employees are not included in the Social Security system. As a result, they do not pay the payroll tax that supports this plan and do not earn credits toward future retirement benefits.
6. Originally, the full retirement age was set at 65; however, 1983 amendments increased the full retirement age to 66 for individuals born between 1943 and 1954. The full retirement age is scheduled to increase to age 67 for individuals born after 1960. Increases in the full retirement age are basically across the board reductions in annual benefits for individuals claiming benefits at each age. See <http://www.socialsecurity.gov/planners/retire/agereduction.html> (accessed September 1, 2016).
7. The PIA is based on the highest 35 years of wage-index annual earnings and a progressive benefit formula. The actual benefit received by a claimant depends on the age at which benefits are claimed.
8. Munnell and Chen (2015) use a cohort analysis of the age of claiming Social Security benefits and find that the proportion of recent cohorts claiming benefits at age 62 has fallen to 36 percent for men and 40 percent for women.
9. The impact of claiming age on monthly benefits is nicely illustrated in *When to Start Receiving Retirement Benefits*, <https://www.ssa.gov/pubs/EN-05-10147.pdf> (accessed September 1, 2016).
10. Shoven and Slavov (2013) provide a detailed review of claiming options and how delaying the start of Social Security benefits increases lifetime benefits.
11. For the past 30 years, the National Bureau of Economic Research's aging program has made significant contributions to research on pensions and aging through a series of books and research papers edited by David Wise and colleagues. Munnell and Sass (2007) also provide an overview of the labor supply choices of older Americans.
12. Munnell and Chen (2015) examine the cohort-adjusted age of claiming Social Security benefits and conclude that few persons reaching age 62 are starting benefits at the earliest possible age.

Chapter 2

Costs and Benefits of Delayed Retirement

When individuals seek to extend their working careers, they may prefer to continue in their same positions and receive the same total compensation for several additional years. As workers opt to delay retirement, employers must consider the costs and benefits associated with having these workers remain in their positions longer. For example, retaining workers until older ages might have adverse effects on the prospects of promotion for midcareer workers and the hiring of entry-level employees. On the other hand, retaining experienced workers with considerable company-specific human capital may positively affect company operations. Older, more senior workers generally cost more in terms of higher salaries, more expensive health insurance, and more accumulated benefits that increase with years of service, such as paid time off or sick leave. Employers must determine whether these additional costs are offset or exacerbated by differences in productivity.

Having older workers represent a greater proportion of the labor force likely imposes both costs and benefits on employers. For individuals to work longer, markets must adjust properly so that employing older workers is cost effective for firms. While individual employers might seek to implement policies that reduce the compensation of their older workers who delay retirement, in the long run we anticipate macroeconomic changes in labor market conditions associated with an increased supply of older workers wishing to postpone retirement. For example, an increase in old age labor supply is predicted to lead to labor market adjustments, such as lower relative wages for older workers.¹

PRODUCTIVITY AND EARNINGS AGE PROFILES: IMPACT ON THE COST OF PRODUCTION

The demand for workers of different ages and/or vintages will depend on two basic age-specific factors: compensation and productivity. Both of these factors have received considerable attention in the economics literature. We now consider how relative compensation levels (market wages) and productivity of older workers affects employers' willingness to accommodate delayed or prolonged retirement transitions of career employees.

Economists have long observed that wages tend to rise with age and job tenure but at a diminishing rate (e.g., Ben-Porath [1967]; Mincer [1974]). These observations led to the development of human capital theory by Schultz (1963) and Becker (1964), which links investments in education and on-the-job training to increases in productivity, which are rewarded by employers in the form of higher wages in the postinvestment years. Becker (p. 153) writes, "Most investments in human capital—e.g., formal education, on-the-job training, or migration—raise observed earnings at older ages because returns are part of earnings then, and lower them at younger ages, because costs are deducted from earnings at that time."

Schultz (1963) reached a similar conclusion: "Except for some pure rent (in earnings) for differences in inherited abilities, most of the differences in earnings are a consequence of differences in the amounts that have been invested in people." These early studies focus exclusively on cash earnings and are based primarily on a spot market theory that indicates workers are paid wages equal to the value of their productivity at each age. Thus, these theories suggest that continued gains in earnings with age reflect rising productivity. In other words, wages continue to equal productivity in each year so that higher-paid older workers do not represent a higher unit cost to employers. The model suggests that workers of different ages are substitutes but that labor costs have adjusted so that workers of all ages

are paid according to their productivity to the firm. If spot markets are the norm, firms have no incentive to retire older workers.

A decade later, labor economists began to focus more closely on long-term employment relationships between workers and firms. Rather than spot markets where wages equal productivity in every period, these models predicted that firms might tilt the age-earnings profile relative to the age-productivity profile so that workers were underpaid early in their careers but then overpaid relative to their productivity in the final years of their employment (see Lazear [1979, 1981]). The idea is that workers essentially post a bond early in their careers and the company repays workers with excess compensation in later working years.² It was argued that this arrangement reduced turnover, helped to sort workers, and enhanced the profits of the firm. However, such contracts require an end point (i.e., retirement) where the present value of lifetime compensation equals the present value of lifetime productivity. Given that workers are being paid more than their productivity during their later working years, these models provided a rationale for mandatory retirement policies and pensions that provided strong economic incentives for workers to retire at specific ages.³

To understand the employer's perspective on working longer, one must first be able to measure worker productivity and its evolution over the life course. However, economists have found it difficult to gather data that would allow for tests of the competing theories regarding wage growth or to measure worker productivity over time. Over 50 years ago, the Department of Labor examined productivity and how it changes with age in various industries where output could more easily be measured, such as manufacturing jobs and jobs with piece-rate compensation. Munnell and Sass (2008, p. 98) review these older studies and conclude that "productivity past age 55 in more physically demanding tasks at best stays level but generally turns down." They note that job characteristics have changed considerably over the last half century, and that research suggests older workers do have lower levels of productivity but that the "productivity gap" between younger and older workers has decreased.

A series of studies provide additional evidence of the age-productivity relationship. Medoff and Abraham (1980, 1981) use performance measures by supervisors as an indicator of productivity and conclude that increases in productivity with job tenure explain only a small component of wage gains. Using data on new hires at Fortune 1000 firms, Kotlikoff and Gokhale (1992) conclude that productivity exceeds earnings for young employees but that for older workers earnings are greater than productivity. These studies support the notion that older workers are paid more than their value to firms and, as a result, employers have a desire to encourage older workers to retire. If these models are correct, an increase in the age of retirement would extend this period of overpayment and have adverse effects on company profits. As a result, firms would tend to resist increases in the average age of retirement of their employees in the short run. In the long run, firms might adjust the amount of annual overpayment, resulting in a different wage structure throughout the employment contract.

In contrast, Hellerstein and Neumark (1995) and Hellerstein, Neumark, and Troske (1999) find that age profiles of earnings and productivity for older and younger workers are very similar, providing some general support for the human capital theory of earnings growth. If their findings more accurately describe the labor market, firms will be indifferent to the retirement patterns of workers. Thus, employers would be more likely to accommodate the desire of some workers for later retirement.

It is important to remember that employers in a competitive labor market must consider both productivity and market wages in making employment decisions. An employer seeking to determine the optimal retirement age of its workers must compare the age-productivity profile to the age-compensation profile. Munnell and Sass (2008) recognize this point and claim that there will be a “productivity compensation deficit” as workers age if the wages of older workers do not decline while productivity falls. As this deficit grows, employers could try to limit employment opportunities of older workers, resist

an increase in the retirement age, or attempt to alter wages to be in line with productivity. In a study of the age structure of various occupations, Hirsch, Macpherson, and Hardy (2000) conclude that later retirement ages will lead to an increase in alternative work arrangements and working conditions that will make working longer easier for workers. However, they speculate that there will likely be “a sizable number of older workers facing constrained opportunities both within and following their long-term career jobs” (p. 416).

One method of testing the relationship between productivity and earnings over the life course is to observe how earnings and compensation profiles change in response to government and employer policy shifts and changes in the demographic composition of the potential labor force. Studies of the Japanese labor market provide some evidence on these points. Hashimoto and Raisian (1985) find that the age earnings profiles of Japanese workers were more steeply sloped than that for U.S. workers. Clark and Ogawa (1992a,b) update and extend this analysis to show that as the Japanese labor force aged and the mandatory retirement age was raised, annual compensation adjusted and the age earnings profiles flattened with the relative increase in the number of older workers.

COST OF EMPLOYEE BENEFITS BY AGE AND TENURE

To further complicate the tests of spot market versus long-term employment contracts, the nature of employment contracts has changed over the past half-century, and employee benefits have risen as a proportion of total labor costs. Defined benefit pension plans, health insurance for active workers, and retiree health plans provide additional back-loading to total compensation and increase the likelihood that the marginal cost of labor from older workers exceeds the gain from their productivity.

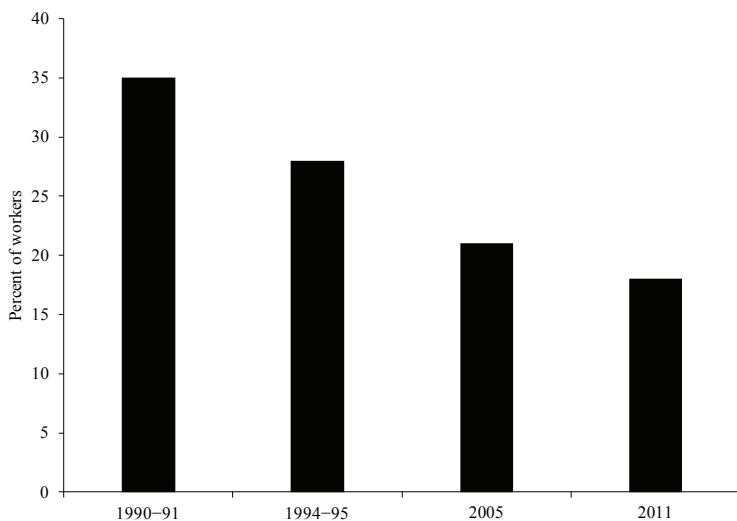
When considering employers' costs of employees working longer, one must pay particular attention to the total cost of compensa-

tion. The Bureau of Labor Statistics (BLS 2016) reports that employee benefits account for about 30.3 percent of total compensation in the private sector and 36.4 percent of compensation in the public sector of the economy. Providing certain benefits to civilian workers constitutes a large fraction of employment costs, such as health insurance (8.4 percent of total compensation), pension plans (5.1 percent of total compensation), and paid leave (6.9 percent of total compensation). The cost of providing these benefits will typically rise with the employees' age and tenure.

Furthermore, defined benefit pension plans typically include economic incentives to retire at specific ages. The fact that these types of plans were widely adopted during the mid-twentieth century provides some evidence that long-term contracts were predominant during that time period. However, the significant shift away from defined benefit plans to defined contribution plans, along with the rapid decline in the incidence of retiree health insurance provision, may signal the end of long-term employment contracts and the resulting tilting of the compensation profile compared to the productivity profile.

Figure 2.1 shows that the proportion of workers covered by a defined benefit plan fell from 35 percent in the early 1990s to only 18 percent in 2011. In addition, a rising proportion of defined benefit plans are now cash balance plans, which do not have the same higher cost for older workers that is found in traditional defined benefit plans. Figure 2.2 indicates that defined benefit plans are more frequently offered by large firms. It may be that compensation is being restructured to more closely reflect a spot market and that workers now have more flexibility to postpone retirement (Friedberg and Webb 2005; Hurd and Rohwedder 2011; Munnell, Cahill, and Jivan 2003).⁴ New types of employment contracts that allow for reduced hours and compensation in later years may develop as a result of workers' needs or desires to work longer.

First, whether an employer self-funds health insurance or purchases it from a third party, the total cost of offering health insurance will be a function of the size and age structure of its labor force. Hold-

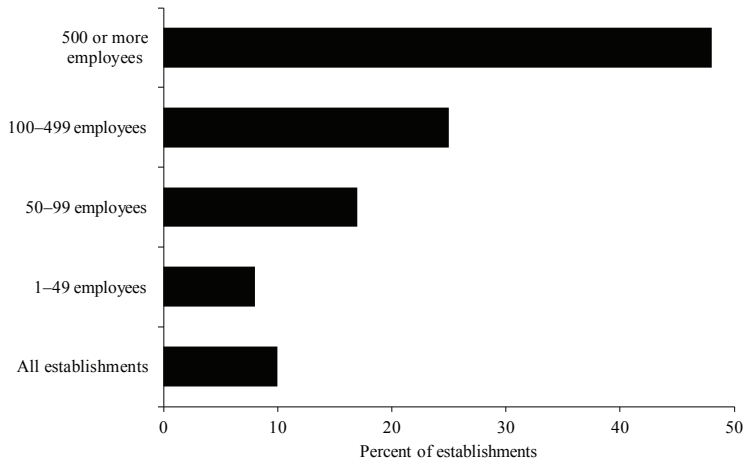
Figure 2.1 Decline of Defined Benefit Pension Plans

SOURCE: Bureau of Labor Statistics (2013b).

ing the number of workers constant, a larger share of older workers will imply a higher total cost of providing health insurance. Yamamoto (2013) and Alemayehu and Warner (2004) provide detailed assessments of the relationship between age and health care costs. These studies note that as individuals age, annual health care costs increase substantially.⁵ Figure 2.3 illustrates how private health insurance spending rose between 2002 and 2010 for different age groups using the National Health Expenditure Database. These data indicate that not only did annual private health insurance spending rise by 5.6 percent on average between 2002 and 2010, but annual spending rose by 7.6 percent for individuals aged 45–64 over that same time period.⁶

Second, the cost of defined benefit plans, relative to cash compensation, rises as workers acquire tenure and as they approach the early and normal retirement ages in the plan. However, after a worker passes these ages, the annual pension cost begins to fall with contin-

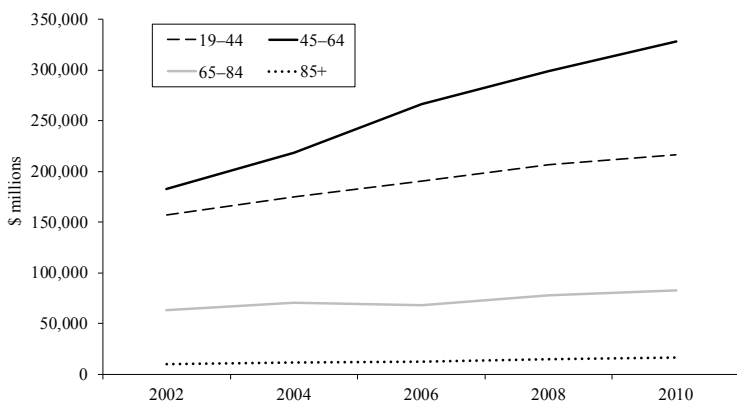
Figure 2.2 Coverage by Defined Benefit Plans, by Firm Size



SOURCE: Bureau of Labor Statistics (2013b).

ued service. Thus, while a worker faces a strong retirement incentive from eligibility ages in the defined benefit pensions, an employer’s cost of retaining a worker beyond normal retirement age could be relatively lower if pension benefits do not accrue at such a high rate.⁷ If there is no change in the specified retirement ages in these plans, and if individuals continue to work past the normal retirement age, then the pension cost to employers over the lifetimes of workers who work longer could actually decline.

Historically, economic research indicates large spikes in retirement rates around the early and normal retirement ages (Kotlikoff and Smith 1983; Kotlikoff and Wise 1987; Quinn, Burkhauser, and Myers 1990). If these incentives to retire are retained, we expect employees to continue to retire from career jobs at normal retirement ages, even though they would prefer to work longer. Of course, after leaving the career job and accepting a retirement benefit, older workers may seek to either shift to phased retirement or return to work as a contract or part-time employee of their career employers. Chapter 3 further discusses these possibilities.

Figure 2.3 Levels of Private Health Insurance Spending, by Age Group

SOURCE: National Health Expenditure Database, Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group.

Alternatively, employers might modify their plans to accommodate a desire for later retirement and increase the normal retirement ages specified in the plan. They might also offer incentives for working longer, such as in-service pension distributions. Such changes to defined benefit plans could raise the benefit to employees of working longer while increasing the cost to employers. Of course, the proportion of the labor force covered by defined benefit plans is declining. However, many sectors of the economy, particularly the public sector, will continue to grapple with the cost effectiveness of altering defined benefit pension plans in order to encourage or accommodate longer working lives.

Defined contribution plans are now the most widely used type of retirement plan. In most cases, employers specify a fixed percent of employee contributions that is matched by the employee. For example, an employer may match 100 percent of employee contributions up to 6 percent of the employee's salary. Thus, employer costs as a percentage of salary will tend to be constant across age and tenure, provided that employees of all tenure contribute the same percentage

of salary. Considerable evidence indicates that younger workers are less likely to contribute to these plans and, when enrolled, contribute a smaller percentage of their salaries. Thus, it is likely that the actual employer cost of matching contributions still increases with employees' age and service. In addition, some employers have variable match rates that increase with age and tenure.

Finally, BLS (2013a) reports that paid leave is the most prevalent employee benefit provided by employers in private industry, with 84 percent of workers receiving vacation, holiday, or personal leave. Paid holidays and paid vacations are the most common forms of paid leave, with 72 percent of workers receiving both. In addition, 61 percent of private sector workers were covered by sick leave plans. The cost to employers for providing paid leave in 2016 was \$2.20 per hour, equal to about 6.9 percent of total compensation (BLS 2016). If the amount of paid leave increases with tenure, the cost to employers of providing this benefit will rise. For example, the average number of paid vacation days for newly hired employees is around 10 days per year. In many companies, vacation time increases with tenure so that after 20 years of service workers receive an average of 20 days of paid vacation per year. Assuming a potential work year of 260 days, vacation time for new workers would represent 3.8 percent of potential work time, while senior employees would be receiving 7.7 percent. We know of no studies that have tried to incorporate the cost of vacation time into an analysis of the relative cost to the firm of senior workers compared to new hires.

Including the cost of employee benefits in total compensation implies that the age compensation profile will be steeper than the more easily measured age earnings profile. Thus, economic studies that have compared earnings to the value of productivity have underestimated the potential gap between pay and performance at older ages. The larger this gap, the greater the concern of employers about extending the normal retirement age.

VINTAGE EFFECTS ON SKILLS AND EXPERIENCE

The previous discussion is largely based on the concept that there is only one type of labor and that differences in productivity across workers are due to differences in investment in human capital over time. This implies that if older workers are more productive than younger workers, employers could just hire additional younger workers to make up for the loss of a more productive older worker through retirement. Alternatively, if older workers delay retirement, employers could respond by hiring fewer younger workers to maintain a constant level of productivity.

But what if older workers are actually different in their skill sets based on years of experience and institutional knowledge? In fact, they might be sufficiently different that the employer considers them two distinct types of labor. For example, Levine and Mitchell (1988) find that younger males are complements with older men, implying that employers need to find the optimal mix of young and old workers. Thus, employers would desire to maintain a sufficient number of older workers who provide the experience necessary for the organization to operate smoothly. Similarly, if younger workers bring a new vintage of human capital and skills that older workers cannot match, firms will have a strong desire to maintain an adequate level of new hires. It may be that older workers serve as mentors to younger workers, and that an optimal age structure for an employer has a mix of workers with different vintages of human capital. The age structure of a firm's labor force matters, and employers will develop their compensation to provide economic incentives that help them attract, retain, and retire workers in a manner that produces the optimal age structure of their workforce.

In such a model, employers would determine the total number of workers and the age composition of their workforces based on the cost and productivity of each type of labor input and the complementarities between workers of different vintages. How will firms

respond to changes in market conditions that are due to changes in the desired retirement age or shifts in total labor supply between younger and older workers?

PROMOTION AND TIME IN GRADE

If an employer accommodates the desire for later retirement ages, and if there is no change in the demand for its product, then an employer might have to reduce the rate of new hiring. As a result, the firm's labor force would become older. Delayed retirement may reduce promotional opportunities and thus increase time in grade for younger workers. The option of later retirement might appeal to current older workers, but how will younger workers and potential new hires feel about having to spend more years in lower-level jobs? Slower promotion may make employment in firms with higher retirement ages less appealing to younger workers, which implies that employers should consider the impact of later retirement on their current and future labor force.

Previous research has relied on demographic models of population aging to understand how later retirement and lower rates of retirement affect the advancement of younger workers. In early work using population life tables, Keyfitz (1973) develops a demographic model that illustrates how lower rates of population growth, and hence the aging of the population, would slow the rate of mobility up the employment hierarchy.⁸ He uses the same model to illustrate the impact of labor force growth on individuals' advancement to higher-paying jobs and management positions. This model has been extended to further illustrate the impact of population aging, the elimination of mandatory retirement, and the resulting increase in the labor force participation rate of older persons on the prospects of promotion for younger workers (see Cantrell and Clark [1980, 1982]; Clark and Cantrell [1986]; Clark and Ghent [2010]). These papers indicate how the extension

of work life implies that more years of service are required before a person reaches any given rank in the employment hierarchy.

Clark and Cantrell (1986) expand the model of promotion by focusing on a single industry and show how changes in personnel and compensation policies might affect exit rates and hence the age structure of the academic labor market. They derive how these alternative futures affect promotional prospects and the age at which various ranks are attained. These studies all suggest that if older workers delay retirement, the age structure of the labor force will become older and there will be fewer promotion opportunities for younger employees. Thus, delayed retirement implies delayed promotion and more years of service to attain each rank in the job hierarchy.

However, the decline in upward mobility can be moderated if older workers do not remain in top jobs as they extend their working careers. This can be accomplished through reductions in job responsibilities or by older workers entering phased retirement. As discussed in Chapter 3, phased retirement provides new opportunities to older workers to keep working at reduced levels and tempers the impact on the promotion prospects for younger workers. Furthermore, a firm may adjust hiring or career structures to accommodate longer working lives and some period of reduced responsibility and time commitment during later employment years.

SUMMARY OF EMPLOYERS' CONCERNS ABOUT DELAYED RETIREMENT

The relationship between compensation and productivity, and the function of how these factors change as workers age, are central to the willingness of employers to facilitate older-age retirement. Compensation is generally observable, although it requires a complete accounting for the total cost of employment, including benefits. However, employee productivity is more difficult to measure. It may also be difficult to link productivity to individual workers if there are

complementarities between workers of different vintages of human capital. We do know that annual earnings and the average cost of benefits rise with age. If productivity increases at a slower rate (or even declines) with age, employers will note that they tend to overpay older workers on an annual basis and thus will not want to extend their employees' working lives. Because of a lack of quantifiable data on employee productivity, relatively few studies have attempted to directly compare and contrast life-cycle patterns of compensation and productivity. Some notable exceptions can be found in the literature on the economics of education, where productivity is approximated by student test score gains (e.g., Wiswall [2013] and references therein).

Not only is it difficult to measure the productivity of individuals, but we expect there to be complementarities between workers as well. In most settings, employees do not work in isolation. It may be that they work as a team, but complementarities can even be seen in environments where there is no teamwork but peer effects alter behavior. For example, Mas and Moretti (2009) find positive productivity spillovers from a highly productive cashier in a large supermarket chain. Fitzpatrick and Lovenheim (2014) find that early retirement incentives caused older teachers to retire earlier. Even though the most experienced teachers left, the authors find little effect on student outcomes. In addition to our wanting to understand how individuals' productivity varies over the life cycle, it would also be useful to measure how retirements affect the workers left behind.

Of course, employers make productivity and compensation comparisons all the time. This occurs in annual performance reviews and merit raises. It is important to remember that the issue in question is not whether an individual older worker remains productive but whether her current (and future) level of productivity is sufficient to justify her current (and future) salary if her work life is suddenly extended. If employers believe that compensation exceeds productivity, and that the difference is likely to increase if retirement is delayed, then company leaders will desire to retain policies that encourage retirement at the traditional retirement ages. If workers are to be given

the opportunity to remain in their career jobs, the focus must be on whether firms can adjust their employment and compensation policies so that, on average, workers have the option to delay retirement. Furthermore, delaying retirement will alter the age structure of the labor force, the stock of human capital and skills, the rate of promotion of younger workers, and the ability to hire younger employees.

DIFFERENCES ACROSS THE ECONOMY

This chapter identifies important economic factors that influence the willingness of employers to retain older workers past the normal retirement age. For some firms, these concerns will be dominant and will seek to provide incentives for older workers to retire in a traditional fashion at the specified retirement ages. For others, the costs will be less important, and their retention policies may be very different. The analysis identifies some employment and compensation characteristics that should lead to labor market sorting into jobs where older workers are a significant proportion of the workforce. The sectors employing older workers could either be attracting and hiring new workers (as in bridge jobs) or retaining career workers for a longer span. Industries in which compensation packages tend not to include retirement plans, health insurance benefits, and paid time off likely would see a larger fraction of older workers. Similarly, firms with a less steep employment hierarchy with fewer promotional opportunities, and where specific human capital is less important, may be more open to retaining older workers.

Firms with performance-based pay that more closely matches the spot market system will be more likely to retain older workers, because productivity declines would be matched with compensation declines. In addition, firms that rely more heavily on merit pay, where annual earnings are directly related to annual performance, will be less concerned with productivity declines with age. Studies by Hutchens (1986, 1988) in the United States and Heywood, Jirjahn,

and Tsertsvardze (2010) in Germany highlight the impact of firm compensation policies on retaining older employees as opposed to hiring new older workers. Back-loading of compensation as part of implicit contracts results in lower turnover rates of older career employees, but it makes firms more reluctant to hire older individuals because of their higher labor costs.

Even within firms, we expect to see that some occupations allow for more job flexibility and have working conditions that are able to accommodate the needs of older workers. Cahill, Giandrea, and Quinn (2011b) find that older workers tend to seek jobs with fewer hours of work, often through a late career job change that is part of a retirement transition. Hirsch, Macpherson, and Hardy (2000, p. 407) provide a detailed assessment of the occupations for which older men and women are most likely to be able to remain on the job. Older men tend to have more employment opportunities in occupations requiring “few physical demands, flexible hours and schedules, and, for the most part, low skill and training requirements,” while women are most likely to be found as “household workers, welfare service aides, religious workers, and crossing guards.” Hirsch, Macpherson, and Hardy also find that jobs requiring evening and night shift work are less likely to employ or hire older women, while flexible working hours had a positive impact on female employment. However, these requirements do not seem to be related to male employment opportunities. The authors also document that more rapidly rising age earnings profiles tend to reduce employment opportunities for older workers. Their analysis clearly shows the differences associated with retaining older workers who delay retirement versus hiring new older workers in bridge employment.

In summary, the importance of skills and preferences of employees, along with job characteristics and compensation policies, influence whether firms think their career workers become costlier as retirement is delayed. This impact varies substantially across firms throughout the economy. These same factors determine the willingness of firms to hire older workers.

Notes

1. Clark and Ogawa (1992a) show that when the age of mandatory retirement in Japan was increased from 55 to 60, the relative wages of older workers declined. The flattening of the age earnings profiles reduced the employers' costs of adjusting their employment contracts as the proportion of older workers in their labor force increased (Matsukura, Ogawa, and Clark 2007).
2. The "bond" is the difference between the value of the workers' productivity (implicitly, their opportunity wage at other firms) and their wages early in their careers.
3. Hutchens (1989) and Skirbekk (2008) provide nice summaries of the alternative theories explaining the growth of earnings with age and review the evidence on how productivity changes with age. Also see Bloom and Sousa-Poza (2013).
4. Greater worker mobility may indicate that workers are now less interested in a long-term relationship with a single employer. More frequent layoffs and plant closings also provide a signal to employees that employers may renege on such contracts.
5. The Kaiser Family Foundation and the Health Research and Educational Trust (2015) report on employer-provided health plans illustrates the proportion of the workforce covered by health plans and the rising cost of these plans over time.
6. Data are from <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/2010GenderandAgeTables.pdf> (accessed December 2015).
7. This lower cost to the employer is the other side of the decline in the growth rate of the pension wealth of older workers as they remain on the job past the early and normal retirement ages.
8. Keyfitz (1973) was primarily interested in showing the impact of population on labor force advancement through the employment hierarchy. He defines rank as the ratio of the number of workers above a person to the number of workers below him. His base model assumes that everyone is hired at the same age, that there is a fixed relationship between supervisors and lower-tier employees, that all workers move at the same rate through the job hierarchy, and that there is a fixed retirement age. Turnover and retirement rates speed the movement up the job hierarchy. Clark and Cantrell (1986) use work life tables instead of life tables to examine similar changes.

Chapter 3

Alternative Late Career Employment Arrangements

As individuals age, they may wish to continue paid employment but with reduced hours or responsibilities. Employers that are interested in retaining older workers might offer a contract, either formal or informal, whereby select older workers continue their career employment but with reduced hours or in a new position. The employee might be offered lower compensation or reduced responsibilities but also more flexibility, different working conditions, and fewer work hours. This transition could entail a shift in job assignments, or the employee could continue doing the same tasks but only work a part of the day, fewer days per week, or full time for part of the year. Defined this way, phased retirement could be considered a form of job sharing, as employers use phased retirees to staff their labor force needs. Similarly, individuals might return to work after claiming a pension with a break in service. This chapter examines the conditions that influence employers' ability and willingness to adopt policies that allow for alternative late-career employment arrangements beyond simply postponing retirement. Both employers and employees might benefit from a continuing employment arrangement, given a built-up stock of employer-specific human capital. However, programs such as phased retirement or return to work may prove difficult to implement because of pension regulations and concerns over age discrimination.

THE EMPLOYER PERSPECTIVE OF PHASED RETIREMENT

There are relatively few broad-based phased retirement programs in the private sector. Furthermore, many employers seem uninterested in including such a program as part of their future human resource policies (McGill et al. 2010).

Employers develop phased retirement plans to achieve certain human resource objectives. Of course, the success of these policies hinges on whether older workers will want to enroll in the phased retirement plan, given the employment terms, wage levels, and benefits that are offered. Employers can make these plans relatively cost neutral (half-time pay for half-time effort) or they can provide incentives to encourage older workers to move into phased retirement (three-quarters pay for half-time work). Phased retirement plans usually specify a predetermined departure date that ends the employer's commitment to providing phased retirement to the individual employee. An important factor is whether retirees that are in phased retirement continue to receive benefits, especially health insurance.

Another major aspect of phased programs is how the nature of job assignments changes as older workers move into phased retirement. Phased retirement plans may be general in nature and cover all employees or can be used on an individual basis in an effort to retain certain employees. Hutchens and Papps (2004) and Rappaport (2001) both report that employers tend to favor informal phased retirement programs that allow employers to decide on a case-by-case basis whether older workers will be given the option of phased retirement.

The decision to adopt a phased retirement program is linked to many of the same issues discussed earlier regarding employer reactions to delayed retirement. In some cases, firms may want to retain older workers and the skills and experience they have acquired. Facing increased retirements associated with aging baby boomers, these employers may find that phased retirement encourages older workers to remain on the job and provides the level of institutional knowledge necessary for high levels of productivity for all workers. Other employers may believe that they have achieved the optimal age structure of their labor force and will be less willing to offer phased retirement for cost and productivity reasons. Thus, a key factor in the decision to adopt phased retirement plans is whether employers think it will encourage high-value workers to leave full-time employment sooner than they would without this option. Alternatively, eligible

employees could tack on additional years of phased retirement to the previously planned age of full retirement rather than simply retiring earlier than planned.

Gustman and Steinmeier (2008) develop a simulation model for workers choosing between full-time employment, phased retirement, and complete retirement. Their analysis indicates that if all employers adopted plans that allowed workers to enter phased retirement at their current hourly wages, there would be a substantial increase in phased retirement and a somewhat smaller reduction in full retirement. Employers must also consider whether phased retirement might appear to be a legal method to encourage less-productive workers to retire more quickly from full-time employment and enter phased retirement.

Hutchens and Grace-Martin (2006) consider three hypotheses for why firms differ in their preferences for phased retirement policies. They focus on minimum hours constraints, employee demand, and the presence of defined benefit pension plans. Building on the earlier work of Gustman and Steinmeier (1983), the authors develop a simple model of a profit-maximizing firm and posit that firms that impose a minimum hours constraint on all employees are less likely to have adopted phased retirement policies. The underlying theory behind this relationship is the production technology and the need for teamwork, whereby part-time employees or “substitute” workers might reduce the productivity of the team. They note that if employees have a preference for phased retirement and are willing to accept lower wages to have it, then firms are more likely to offer this benefit as part of the employment contract with a compensating differential of lower wages. Individuals who prefer having the option to phase into retirement might then cluster together in firms that offer this benefit.

Surveys of employers indicate that relatively few companies have adopted formal phased retirement programs. For example, Rapaport (2001) reports that a survey by William Mercer finds that less than one-quarter of employers surveyed had adopted formal phased retirement programs. Two surveys of older workers by Watson Wyatt

Worldwide (1999, 2004) indicate that there may be some increase in the incidence of phased retirement plans. The first survey finds that only 16 percent of large employers offered any type of phased retirement, while the latter survey reports that 40 percent of employers had policies allowing employees to phase into retirement on their current jobs. The 2004 report concludes that phasing will likely become increasingly prevalent as the baby boomers enter their retirement years. One should keep in mind that these surveys are small in scale and are not representative of the entire labor market.

REGULATORY FRICTIONS

The lack of interest by employers in establishing phased retirement programs may be due to legal and regulatory policies associated with retirement plans, tax policies, and age discrimination laws. McGill et al. (2010, Chapter 8) provide a detailed account of federal policies that impact the payment of a retirement benefit from a defined benefit plan and how they have evolved over the past decade.

Hutchens and Grace-Martin (2006) note that defined benefit pension plans may be an obstacle to phased retirement because of the relationship between final salary and retirement benefits. If phased retirees continue to be covered by a defined benefit plan, and phased years and the salary earned during these years are used to calculate retirement benefits, then annual benefits could be lowered by the individual's having spent time in phased retirement.¹ Obviously, this would make phased retirement less desirable. In contrast, participation in defined contribution plans can determine the date a worker initiates withdrawals and begins to draw down retirement wealth. Delaying the start of the draw-down from a defined contribution plan increases the potential annual annuity that ultimately can be paid.²

IRS tax law prohibits individuals from working full time in a position covered by a defined benefit pension while also receiving a benefit from that same plan except under certain circumstances, as

modified by the Pension Protection Act. If a worker is incentivized to retire at a specific age because of the pension structure, it may be appealing to enter into a new type of employment contract with the career employer. For example, a worker could become a contractor. In this case, rather than a formal phased retirement program, there may be indirect channels of returning to work.

To investigate the role of minimum hours and pension policies in the adoption of phased retirement programs, Hutchens and Grace-Martin (2006) examine a sample of 950 establishments (not in agriculture or mining) with 20 or more employees. Their empirical results indicate that minimum hours constraints are important to consider and also suggest that the existence of defined benefit pension plans make phased retirement policies less likely. However, they find no evidence that employee preferences increase the likelihood of being covered by phased retirement policies. Significant differences in the incidence of phased retirement policies are found across occupations, and larger firms are more likely to have established phased retirement policies than smaller firms. Employer interviews also indicate that firms often have informal policies that allow some employees to shift to part-time employment at the end of their working careers.

PHASED RETIREMENT IN HIGHER EDUCATION

One sector of the economy that seems particularly well suited for phased retirement is higher education. Conley (2007) reports results from a survey conducted by the American Association of American University Presses that indicate 32 percent of universities had formal phased retirement programs. Allen (2005) describes the advantages to universities of offering phased retirement and reviews the incidence of these plans in higher education.³ He concludes that phased retirement can be a win-win in higher education. Workloads of career faculty are relatively easy to divide (e.g., teaching courses during one semester and then not working one semester). Universities gain from phased

retirement because career faculty members are typically required to give up tenure in exchange for a reduced workload. In many plans, the program is relatively cost neutral, as the cost of two phased retirees is similar to the cost of one full-time professor. Faculty gain from phased retirement since they are allowed to gradually disengage from the university. During phased retirement, faculty may actually have higher total income than when they worked full time, depending on their utilization of pension and Social Security income combined with their half-time salary from the university.

Allen, Clark, and Ghent (2004) examine the impact of a phased retirement system adopted by the University of North Carolina (UNC) system of 16 campuses.⁴ The UNC program required faculty to relinquish tenure and sign a three-year contract that provided 50 percent of preretirement pay for 50 percent effort, followed by complete retirement. Prior to the introduction of this program, the retirement rate of faculty 50 and older was 8.7 percent. After the plan was introduced, the total retirement rate (full plus phased retirement) increased to about 10.5 percent in the first three years of the program. About 30 percent of total retirements were faculty entering the phased retirement program. The authors conclude, “On balance, the introduction of phased retirement in the UNC system seems to have been beneficial from both employee and employer perspectives” (p. 124).⁵

AGE DISCRIMINATION LAWS

To protect older workers from employer discrimination, federal and state laws prohibit the use of a worker’s age in making an employment decision (hiring, promotion, compensation, and retention). The 1968 Age Discrimination in Employment Act (ADEA) made discrimination against workers aged 40–65 illegal. Since the upper age was capped at 65, employers could continue to impose mandatory retirement at age 65 or above. In 1978, the ADEA was amended to

cover workers up to age 70. To comply, firms had to either eliminate their mandatory retirement policies or raise the age to 70. The ADEA was amended once again in 1986 to prohibit discrimination against all workers aged 40 and over, thus effectively eliminating the use of mandatory retirement and other age-based policies, except in certain sectors of the economy and among certain highly paid employees.

Although ending mandatory retirement seems like a benefit for older workers, it may have had unintended consequences. For example, Lahey (2008) finds that employers reacted to age discrimination policies by reducing older worker employment.

In addition to ending mandatory retirement, the ADEA requires firms to modify other employment policies that might adversely affect older workers. Thus, employers may worry about the legal implications associated with phased retirement policies that reduce hourly wages and result in lower-status jobs. Furthermore, employers may believe that they need to treat all workers equally when adjusting wages or providing alternative end-of-career work arrangements (see Neumark [2009] for a detailed discussion). They may be concerned that any modifications in job titles, responsibilities, and compensation that would make older workers more attractive to retain would be considered age discriminatory. Thus, not all employers would consider adopting some of the adjustments discussed in this review.

For the most part, research on age discrimination has focused on the impact of laws that mandate that firms treat older workers equally in hiring, training, and compensation. While most research indicates that the opportunities of older workers have improved, some studies suggest that firms are more reluctant to hire older workers because of the stronger legal protections (e.g., Lahey [2008]; Neumark and Button [2014]). It is possible that these laws restrict employers from developing policies that accommodate the preferences of older workers if it means giving up status and employee benefits.

More research is needed to evaluate whether government policies permit career employers to modify working conditions of older workers without violating their rights or leaving them vulnerable to

discrimination. Phased retirement could become an important component of the retirement transition by allowing productive workers to remain with their career employers while compensation and working conditions are modified. Federal and state governments should examine whether age discrimination laws, tax policies, and pension regulations should be modified to remove restrictions that limit the use of phased retirement programs.

WILL PHASED RETIREMENT BE AN IMPORTANT RETIREMENT PATH IN THE FUTURE?

Economic studies and data analyses indicate that a large proportion of career employees would like the option of phasing into retirement on their current jobs. However, many of the studies of individual responses to the availability of phased retirement are dated, and most use survey responses from the Health and Retirement Study. Much has changed for older persons in the labor market in the past three decades. The trend toward early retirement has been reversed, and labor force participation rates of older workers have increased. Future research should address two key questions. First, how has delayed retirement from full-time career jobs affected the demand for phased retirement? Clark and Morrill (2015) find that individuals leaving career jobs in their fifties are more likely to enter phased retirement or bridge jobs than retirees in their sixties. Second, how has the continued decline in the coverage of defined benefit plans affected retirement transitions? Participants in defined contribution plans may find that phased retirement is less beneficial to them since they have greater control of the utilization of their retirement wealth.

The U.S. Department of Labor (2008) held hearings on the demand for phased retirement by employees and the barriers that inhibit employers from establishing phased retirement programs. Johnson (2011) discusses how age discrimination laws and pension regulations interact to restrict the adoption of phased retirement plans

(see also Fields and Hutchens [2002]). Recent changes in federal legislation to allow in-service distribution of pension benefits after employees have attained the normal retirement age have moderated a significant impediment to phased retirement. Limited evidence indicates that the incidence of phased retirement varies across employers and sectors of the economy, due in part to production techniques and the divisibility of job tasks. Hill (2010) discusses these legal barriers, as well as company-specific characteristics that restrict or limit employers' ability to adopt phased retirement plans, such as the types of jobs, the organizational structure of the firm, and the characteristics of employees.

Interestingly, the federal government has recently adopted a phased retirement program for its own workforce and issued basic guidelines governing which federal workers are eligible and what terms of employment are acceptable. Employees who meet the eligibility requirements may continue working on a part-time basis with the agreement of their agencies. These phased retirees can receive a partial retirement benefit and will continue to accrue service credits that will be used in the determination of their ultimate retirement benefit. Office of Personnel Management (OPM) guidelines state that phased retirees must spend 20 percent of their time mentoring younger employees. OPM Director Katherine Archuleta states, "Phased retirement offers an innovative alternative to traditional retirement for the twenty-first century workforce. It provides a new tool that allows managers to better provide unique mentoring opportunities for employees, while increasing access to the decades of institutional knowledge and experience that retirees can provide" (McGuinness 2014).⁶

RETURNING TO WORK AFTER RETIREMENT

An alternative to formal phased retirement programs is for older workers to return to their previous employers in a new role, often

after a period of nonemployment. When an employee is covered by a defined benefit plan, in most cases she will find that continued employment past normal retirement age carries a large opportunity cost. However, perhaps she (and her employer) would prefer to continue the relationship. IRS rules stipulate that an individual must separate from employment for a period of time and may return to work only in a position not covered by the pension from which the individual is actively receiving a benefit. Pension benefits can be suspended and covered work resumed at any point. Uncovered employment can typically be structured as contract work, whereby a worker is either self-employed or employed by an agency that leases their services to the career employer. This work could be flexible and part time or could be full time, but it must not be in a position that is covered by the defined benefit pension plan. An employer might value this type of arrangement since these contract-type positions likely do not carry the same job protections and restrictions.

An alternative arrangement can be reached if a worker terminates employment and requests a lump sum distribution of the defined benefit pension. In the private sector, the Employee Retirement Income Security Act of 1974 guidelines stipulate that any plan that offers a lump sum option must calculate that amount using an actuarially equivalent formula. In the public sector, the lump sum option is generally calculated as the sum of employee contributions and is typically much lower than the present discounted value of the potential annuity for career workers (see the discussion in Clark, Morrill, and Vanderweide [2014]). In practice, it may be difficult for employers to navigate the complex tax rules associated with these work-after-retirement work-arounds. Maestas (2010, p. 726) writes, “Although the Pension Protection Act [2006] established the legality of in-service pension payments under certain circumstances, it is not yet clear to what extent employers will make this option available.”

EMPLOYER OPTIONS TO ACCOMMODATE DELAYED RETIREMENT

This chapter has highlighted several potential barriers to an employer accommodating workers' desires to work longer. Age discrimination laws may hinder an employer's ability to adjust compensation to reflect productivity changes as workers age. It might also be that conventions regarding wage growth inhibit an employers' ability to adjust compensation downward. The typical structure of benefits may also be a problem. We speculate that employers may want to accommodate workers' desires to work longer but might encounter legal or cultural obstacles along the way. This might explain why some workers transition to bridge jobs rather than enter phased retirement at a career employer.

As the workforce ages, we may see an increase in both phased retirement and return-to-work programs. This is particularly true among employers offering workers defined benefit plans, because these plans are designed to incentivize retirements at certain ages. If the employer seeks to retain talent at ages above their defined benefit plans' normal retirement age, this can be achieved through the development of programs that allow for a continued relationship while not violating IRS and federal and state regulations of pension plans.

Notes

1. Most defined benefit pension plans have an earnings-based formula that is the multiple of a generosity parameter, total years of service (earned plus purchased), and a final average salary (FAS) value, which is often based on the average salary during the individual's final few years of service. If phased years are included in calculating FAS, monthly retirement benefits will be lower. However, if phased retirees are not included in the retirement plan, then FAS would be based on prephased years (or the top few years of earnings, especially if the earnings were indexed) and the retirement benefit would be unaffected.
2. Allowing phased retirees to begin to receive their pension benefits while

in phased retirement would mean that the retiree would be receiving the full retirement benefit along with the salary for phased retirement.

3. Leslie and Janson (2005) also examine the value of phased retirement from the perspective of the university.
4. Switkes (2005) describes the introduction of a phased retirement plan in the University of California system.
5. Ghent, Allen, and Clark (2001) provide additional analysis of the introduction of this phased retirement plan. Interestingly, they find that faculty who are enrolled in the state defined benefit plan are more likely to enter phased retirement than those who elected to participate in a defined contribution plan. This reflects two parameters of the program: 1) the requirement that faculty retire before entering the plan, and 2) the stipulation that in phased retirement they will no longer accrue retirement benefits.
6. For detailed guidelines of the phased retirement program, see <https://www.federalregister.gov/articles/2014/08/08/2014-18681/phased-retirement> (accessed December 2015).

Chapter 4

The Role of Public Policies

Federal policies on retirement and age discrimination influence workers' decisions on whether to retire at later ages. These same policies affect employers' willingness to retain older workers. This chapter reviews some of the key elements of national work and retirement policies. Potential changes could remove some of the labor costs and legal constraints that limit employers' willingness to retain older workers past traditional retirement ages. Labor market regulations that aim to protect older workers from age discrimination may hinder the ability of workers and firms to renegotiate contract terms that would make older workers more valuable.

While individuals might want to work longer as life expectancy increases, the *opportunities* for continued employment depend on the actions of government and employers. The willingness of firms to retain individuals until older ages is affected by a series of public programs and policies. In this chapter, we consider possible changes in Social Security and Medicare, and we discuss age discrimination policies that directly affect the cost and benefit of modifying working conditions in a manner that will reduce the incentives that may prompt workers to retire.

SOCIAL SECURITY AND MEDICARE REFORMS TO PROMOTE DELAYED RETIREMENT

Pay-as-you-go old age pensions or health insurance programs (e.g., Social Security and Medicare in the United States) require an adequate ratio of workers to claimants to remain solvent. Thus, governments offering such programs must design public policies that incentivize shorter periods of time spent in retirement and longer periods of time spent paying into the systems. For example, Butrica,

Smith, and Steuerle (2006) estimate that the U.S. government would raise \$180 billion in additional tax revenue by 2045 if all workers delayed retirement by one year. As the average age of the population rises and the cost of national entitlement programs increase, government has attempted to encourage later retirement through higher ages of eligibility and lower benefits in such programs as Social Security.¹ Delayed retirement should reduce the cost of national retirement programs and help maintain per capita GDP in an aging society.² Given the current financial plight of Social Security, it is likely that there will be fundamental changes in the payroll tax and benefit formula over the next two decades.³

Fifty years ago, when Medicare was established, the average age of retirement was 65, which was the age of eligibility for both Medicare and Social Security. Significant increases in life expectancy since then have substantially increased the cost of these programs. Medicare faces a long-run financing deficit, and the trust fund is projected to be depleted in 2030.⁴ While the normal retirement age to qualify for Social Security benefits has increased to age 66, the age of eligibility for Medicare for the nondisabled has remained at 65. Increasing the age of eligibility for government health insurance should also encourage later retirement.

If the government were to increase the ages of eligibility for Social Security and Medicare, how would employers respond? If a firm has designed an optimal compensation scheme to attract, retain, and retire workers, then firms might seek to offset changes in national retirement programs that encourage delayed retirement by adjusting age-specific compensation (if allowed by law) or by increasing the retirement incentives in their own compensation packages. For example, if the normal retirement age of Social Security were raised to 70, employers could adjust their own retirement policies to target age 70 as the expected or normal retirement age. In other words, retirement plans could be restructured so that working to age 70 is necessary to provide an adequate retirement income. Of course, this implies that employers are willing to accept the higher retirement age. Interestingly, increases in the normal retirement ages specified

in pension plans would imply more years of work for employers and employees to accumulate sufficient resources to provide an adequate annual retirement income for the fewer number of years in retirement. An employer increasing the normal retirement age in its pension plan while holding the target replacement rate constant would moderate the higher cost of retaining older workers.

On the other hand, if employers have concerns about a higher retirement age for their workers, they could modify their own retirement plans to offset the changes in Social Security so that workers continue to retire at the age the company deems optimal. Such a response highlights the difference between worker preference for later retirement and job opportunities with firms concerned about the cost and productivity of older workers. Employers would be more willing to extend work life if compensation, costs, and working conditions are altered (see Henkens and van Dalen [2011] and references therein), which could reduce labor market rigidities that hinder employees from reducing hours worked or otherwise transitioning into retirement (Hurd 1996).

Once Medicare was enacted, many employers agreed to extend health insurance to workers retiring by age 65. Retiree health insurance can be considered an early retirement incentive—if retirees need to purchase health insurance until they are eligible for Medicare, this could be cost prohibitive, as the annual cost of health insurance for a married couple in their fifties or early sixties can be substantial. Employer-provided health insurance for retirees until they reach age 65 can be an important incentive to retire prior to reaching age 65. Fitzpatrick (2014) shows how retiree health insurance for public school employees enhances the retirement incentives embedded in the defined benefit pension plan. The decline in coverage by defined benefit plans and the sharp drop in the proportion of firms providing retiree health insurance have altered the incentives for early retirement. This is one of the reasons for the increase in labor force participation among older persons. Retiring after age 65 makes these plans less important to individuals as they plan the retirement transition.

One policy change that would encourage individuals to continue working and employers to be more receptive to delayed retirement would be to eliminate Social Security and Medicare payroll taxes for both the employer and employee for all workers who have reached the age of eligibility for these programs. Such a change would acknowledge that these older workers had “paid up” their policies and were eligible for benefits. They would receive the equivalent of an increase in take-home pay of 7.65 percent, holding gross earnings constant. This wage increase should further encourage delayed retirement. At the same time, the absolute and relative cost to the employer of maintaining older workers would decline by a similar amount. The elimination of employer payroll taxes on older workers would increase the demand for these workers and likely result in more employment opportunities for older workers to remain in the labor force. Of course, the loss of this revenue would undermine the attempts to shore up these social insurance programs by encouraging later claiming ages.

PUBLIC POLICIES CONCERNING MODIFICATION OF EMPLOYMENT CONTRACTS

The evidence indicates that many workers prefer a gradual transition into retirement. Currently, the most frequent method of achieving this shift in employment status is to retire from a career employer and move to a bridge job. In general, the hourly wage in bridge jobs is much lower than compensation in the old job. Would it be more efficient for workers to negotiate new working conditions and compensation with their career employer rather than incur search costs and move to lower-paying employment? Earlier, we showed that employers may be reluctant to adopt phased retirement or return-to-work programs. They may fear being sued for age discrimination if wages and status are reduced. In addition, defined benefit pension regulations may inhibit individuals from working while claiming benefits.

Employers would also be more likely to enact phased retirement or return-to-work policies if the offer of continued employment can be restricted to targeted workers, such as those in hard-to-replace jobs or only workers with high levels of performance.

More work is needed to determine whether state and federal policies, such as age discrimination rules, affect end-of-career decisions by both firms and workers. Certain types of employment and compensation restructuring toward the end of careers clearly would be in the interest of at least some workers and firms. The reluctance of employers to adopt these policies is due in part to uncertainty about how they will be viewed by regulators and the courts. Removing this concern should increase the incidence of phased retirement programs throughout the economy, although potentially at the cost of removing needed employment protections for older workers. In addition, even if policies were modified, it would certainly not be the case that all firms move quickly to adopt phased retirement programs. As highlighted in Chapter 2, real cost and productivity issues would likely remain.

If offered the choice, would individuals prefer redefined employment with their career employer to a new job? The answer to this question depends on the preferences of workers and the types of new working conditions they might prefer in the final working years. Those who are seeking new challenges and second careers may still want to shift to new occupations in different industries; however, for many, it is likely that reduced search costs and a familiar working environment will be the optimal path for the transition into retirement.

IMPACT OF PUBLIC POLICIES ON EMPLOYERS, AND THEIR CONCERNS ABOUT DELAYED RETIREMENT

National economic policies can influence the rate of growth of the economy and hence the aggregate demand for labor. A faster rate of growth leads to greater increases in the demand for workers. In a growing economy, hiring new workers becomes more difficult, and

firms will be more willing to retain older workers and allow the average age of retirement to rise. Alternatively, a more slowly growing economy creates an environment in which firms seek to encourage older workers to leave at earlier ages. Thus, macroeconomic policies that promote growth are consistent with delayed retirement.

Some policies, programs, and regulations directly affect the cost of hiring and retaining workers. To the extent that these policies increase the cost of employing older rather than younger workers, employers will resist extending the work life of their career employees. With an increase in average life expectancy, the need for delayed retirement becomes more important. A comprehensive assessment is needed of the impact of these various programs on the demand for older workers and whether policies raise hurdles as firms seek to respond to their employees' desire for later retirement and modified working conditions in their final working years. The history of firm compensation policy indicates that employers do respond to changes in government policies that affect costs. Policies that reduce the relative cost of employing older workers or that remove constraints that limit modifications of working conditions should increase opportunities for older workers to remain in their career jobs.

Notes

1. Changes have included those made by the 1983 Greenspan Commission, which raised the age for full benefits, instituted changes in the earnings test, and delayed retirement credits (Schieber and Shoven 1999).
2. Clark et al. (2008) illustrate the impact of delayed retirement and higher labor force participation rates for older men and women on the future growth rate of the Japanese economy.
3. The annual report of the Social Security Trustees (2014) indicates that the projected 75-year deficit of the OASDI program is 2.88 percent of taxable earnings and that the OASDI trust fund will be exhausted in 2033.
4. See <http://www.socialsecurity.gov/OACT/TRSUM/index.html> (accessed August 24, 2016).

Chapter 5

The Future of Working Longer

Any assessment of labor market trends must include a careful analysis of employer interests associated with the size and age distribution of their workforces. Over the past 50 years, firms have dramatically altered their compensation policies in response to changing government policies and labor market conditions. The development of defined benefit pension plans, increases in these plans' generosity, and the adoption of early retirement incentives allowed employers to achieve an orderly retirement around the desired ages of retirement. The introduction of retiree health insurance programs following the enactment of Medicare also provided incentives for many individuals to retire prior to age 65, when they would become eligible for Medicare.

Many of these changes were introduced in the 1960s and 1970s, when baby boomers began entering the labor force. In response to the increased supply of younger, cheaper, and better-educated workers, firms adopted new retirement policies that offered older workers the opportunity to retire. An aging population and rising life expectancy, along with modifications in government policies and programs, substantially increased the cost to employers of providing these benefits. Firms have responded by shifting from defined benefit retirement plans to defined contribution plans, which lack the same early retirement incentives. The sharp decline in coverage by retiree health plans has made early retirement more expensive for workers. Thus, these changes in employers' policies have exacerbated the need for older workers to remain in the labor force. The key question for the future is, how will employers respond to the increasing desire of workers to remain on the job past age 65?

MODIFYING EMPLOYMENT CONTRACTS TO ACCOMMODATE DELAYED RETIREMENT

Throughout most of the twentieth century, labor force participation rates of older individuals steadily declined. In order to finance a

retirement of 10 or 15 years, individuals must save throughout their working years. The establishment of Social Security in 1935 promised workers a base income for retirement and thus helped individuals accumulate sufficient income for retirement. In the post–World War II period, employers began offering pension plans that provide additional retirement income. As these plans spread across the economy, employers developed pensions that provided significant incentives for workers to retire at or before age 65. The phenomenon of employers encouraging retirement at relatively young ages was the result of a rapidly growing population that enabled firms to hire younger workers at lower wages. Rising educational attainment and the emergence of new technologies reduced the competitive advantage of experience. Thus, changing economic and demographic conditions provided the impetus for employers to develop employment and compensation policies that encouraged retirement at specific ages.

Beginning in the mid-1980s, individuals began to reassess early retirement, and the labor force participation rates rose for men and women aged 55 and over. This reversal of the trend toward early retirement was influenced by changes in Social Security policies, the shift from defined benefit to defined contribution plans, and increased life expectancy. As workers seek to delay retirement, firms must review their policies and determine whether they will accommodate later retirements or develop new programs that achieve the desired retirement ages of their employees.

This analysis began with the premise that, compared to workers in the twentieth century, individuals today want to remain in the labor force until older ages. Economists and policy analysts have noted the difficulties of accumulating sufficient resources to finance greater longevity. The annual saving rates needed to achieve a desired standard of living in retirement are higher when the expected length of retirement is 25 or 30 years compared to 15 or 20 years. Changes in Social Security and low interest rates imply that delaying the claiming of Social Security benefits results in present value gains, which provide insurance against living to very old ages. As a result, extending work life has become a rallying cry in the popular press and in research studies.

Analyses of delayed retirement generally focus on the workers' perspective—rarely do studies consider the impact of delayed retire-

ment on employers. In this book, we ask whether employers will be willing and able to accommodate workers' preferences to retire later. Workers' retirement decisions will ultimately depend on life-time compensation, employers' human resource policies, and government policies and programs. While labor supply changes associated with increased work life have received considerable attention in the literature, much less is understood about potential changes in labor demand.

Throughout this book, we have analyzed the employer perspective of the evolving paths to retirement. For many individuals, the norm is no longer for workers to move directly from full-time work to complete retirement. Instead, many move to new jobs, seeking reduced hours, new challenges, or less stressful environments. They are able to continue working, potentially at lower annual earnings because they can draw on Social Security, employer pensions, and other savings. Some retirees move into self-employment and enjoy the ability to manage their own time. These transitions may occur at the time of retirement from one's career job or after a period of no work. Employers must then determine whether to hire or retain this growing segment of the labor force.

It is interesting to consider the different challenges facing career employers whose employees defer retirement as opposed to firms that hire workers in this postretirement market. A key question for both types of employers is, can employment and compensation policies be offered in which the value of older workers is sufficiently high relative to their costs? Of course, these working conditions must also meet the preferences of workers attempting to delay retirement. An important issue for future research is whether individuals are better off switching jobs or attempting to work with career employers to achieve appropriate employment terms.

CAREER EMPLOYER CONCERNS WITH DELAYED RETIREMENT

When career employees delay retirement, the most important issue for employers is the impact of an aging labor force on produc-

tivity and labor costs. Many employers believe that after some point productivity begins to decline. Hourly, or even annual, productivity is hard to measure in many jobs. While some studies have tried to capture the path of productivity over a career, these measures tend to be noisy and unreliable. It is certainly true that gains and declines in productivity will vary substantially across workers. These individual differences around general age patterns of productivity provide a rationale for age discrimination laws. These laws were often adopted in response to concerns that firms were limiting the opportunities of workers in the second half of their careers, when they were aged 40 and older. These same laws might now prevent employers from altering employment conditions that would make the retention of older workers more desirable.

While productivity may be difficult to measure, earnings are more easily observable. The literature contains many studies estimating age-earnings profiles. Administrative data clearly show a rise in annual earnings with job tenure. Most economic studies have focused exclusively on earnings as a measure of labor costs. Chapter 2 shows that the cost of employee benefits—especially health insurance, pension contributions, and paid time off—also increases with age. Economic theory indicates that when a worker's marginal productivity falls below the marginal cost of his employment to the firm, then a profit-maximizing firm would like for this employee to retire. Employers have developed personnel policies and compensation systems to create incentives to retire around certain ages.

Profit-maximizing firms must determine the optimal number of workers to be employed and also the appropriate mix of individuals at different ages. Pay scales and benefits help the firm first attract the desired labor force and then retain those workers. Policies are also developed to give employees incentives to retire when it is optimal for the employer. If workers do not retire around these ages, the firm will be adversely affected. Delayed retirement by older workers will limit the promotion prospects of younger workers and reduce the ability of the firm to hire new employees.

The preference for an orderly retirement of employees around specific ages does not imply that older workers have no value. Rather, it follows from an assessment that their productivity has fallen below cost. Workers make retirement decisions based on their own prefer-

ences and resources in an effort to maximize utility over their remaining years. With increases in life expectancy and reductions in public and private retirement benefits, it is easy to see why career employees may want to retire at older ages, given current compensation and workloads.

EMPLOYER POLICIES FOR THE FUTURE

If we assume that the desire for extended work life will continue to rise, we must then consider how employers will respond. The decisions of workers to remain on the job may not be optimal for the employer. In addition, employers may seek to develop compensation policies that take advantage of an older workforce that may desire fewer hours and lower levels of benefits but may also have higher levels of experience and job-specific knowledge. Employers might find that, all else equal, it is optimal to accommodate workers' preferences for working longer by modifying job assignments and compensation policies. However, they may also face barriers to making adjustments to working conditions and compensation. Such barriers may include union contracts, age discrimination laws, pension regulations, and production techniques. Workers might consider remaining with their employers for lower compensation if they could work fewer hours and have less responsibility.

Phased retirement and return-to-work policies might fit both worker preferences and employer concerns. The use of these policies in today's economy is somewhat limited, despite the fact that many workers might prefer restructured compensation while remaining with their current employers rather than retiring and seeking new employment in a bridge job. Employers may have informal policies that aim to keep the best workers but may be reluctant to have a broad program that offers phased retirement to all qualified employees. This may be due to the difficulties of developing cost-neutral policies and production techniques that work better with full-time employees. Employers also seem reluctant to adopt such policies for fear that they might run afoul of federal and state age discrimination policies.

Given current trends and public policies, it seems likely that firms will be faced with increasing demand by employees to delay retirement. New research is needed to provide a better framework in which to evaluate the impact of this expected change on labor costs and productivity. For example, would individuals actually prefer a decreasing wage profile at the end of a career prior to complete retirement? Would this type of contract be more appealing if framed as a lifetime compensation package rather than a decline in salary at the end of career? The presence of bridge jobs suggests that lower wages and fewer hours are appealing to some older workers.

Do workers prefer bridge jobs to a “tapering” contract because it avoids the feelings of loss? The behavioral economics literature has addressed how intertemporal choice and time discounting affects individuals’ preferences regarding when in their careers they receive the highest levels of compensation (e.g., Loewenstein and Sicherman [1991]). One explanation offered for why we do not observe decreasing wage profiles at older ages is that individuals might experience “loss aversion” when their salaries are lowered (Kahneman and Tversky 1979). A useful research agenda would combine insights from behavioral economics with a consideration of how best to construct optimal employment contracts that would extend the work life of workers. The employer may gain from a contract that includes tapering as a cost-effective means of maintaining firm-specific human capital, while the worker might benefit from a contract that avoids the perception of a loss.

In the longer term, if employers accommodate longer work lives for employees, does this lead to new types of employment contracts? For example, if phased retirement becomes a normative arrangement, then we might expect adjustments in employment contracts that pre-commit workers to lower salaries and/or benefits at older ages. Do employers find it more efficient to set up formal policies regarding retirement transitions, such as phased retirement options or return to work postretirement? If so, are tax policies and government-provided retirement benefits designed optimally to allow for new types of employment relationships? What new types of employment contracts are currently being introduced to accommodate trends toward working longer?

IMPACT OF POTENTIAL CHANGES IN PUBLIC POLICY

If working longer is deemed to be beneficial for individuals, society, and the economy, government policies could be adopted to increase incentives for individuals to remain in the labor force and for firms to employ older workers. Identifying and removing any real or perceived age discrimination issues associated with phased retirement programs would encourage firms to adopt such plans. Firms could then consider modifying working conditions and compensation policies in order to increase the probability that older workers are cost effective. Redesigned jobs and reduced working hours combined with access to retirement benefits when entering phased retirement could make employees more willing to leave full-time employment and accept these new conditions. Such redesigned jobs may well be more appealing to individuals wishing to prolong their work lives than entering the bridge job market. In Chapter 3, we examine how phased retirement policies are widespread in higher education and are generally viewed as a win-win for faculty and institutions.

DEMOGRAPHIC TRENDS AND LABOR MARKET RESPONSES

Market wage rates are determined by demand for and supply of workers. Population aging and the increase in the proportion of the 65-and-older population who want to remain in the labor force should result in downward pressure on the market wage for these workers. In particular, we would expect that wages of older workers would decline, which should increase employment opportunities for older workers. A more slowly growing population implies smaller entering cohorts. Thus, as firms find that hiring younger workers is more difficult and costly, the demand for older workers might increase.

Much of the analysis in this book has focused on the impact of delayed retirement on individual employers, holding constant market forces. In many respects, this is how a firm would view these changes. However, demographic changes and any ensuing macroeconomic shifts will alter the labor market over time in fundamental ways not

discussed in this book. For example, downward pressure on market wages will increase the willingness of firms to accommodate preferences for older retirement ages.

We have outlined how individual employers might view a sudden change in the retirement ages of its current workforce, and we emphasize how the push toward delayed retirement might not be desirable to individual employers. We speculate that as individuals choose to delay retirement, firms will respond by developing new types of employment contracts more suited to the preferences of older workers and consistent with their changing value to firms.

References

- Alemayehu, Berhanu, and Kenneth Warner. 2004. "The Lifetime Distribution of Health Care Costs." *Health Services Research* 39(3): 627–642.
- Allen, Steven. 2005. "The Value of Phased Retirement." In *Recruitment, Retention, and Retirement in Higher Education: Building and Managing the Faculty of the Future*, Robert Clark and Jennifer Ma, eds. Northampton, MA: Edward Elgar, pp. 185–208.
- Allen, Steven, Robert Clark, and Linda Ghent. 2004. "Phasing into Retirement." *Industrial and Labor Relations Review* 58(1): 112–127.
- Becker, Gary. 1964. *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. New York: National Bureau of Economic Research.
- Ben-Porath, Yoram. 1967. "The Production of Human Capital and the Life Cycle of Earnings." *Journal of Political Economy* 75(4): 352–365.
- Bloom, David E., and Alfonso Sousa-Poza. 2013. "Ageing and Productivity." *Labour Economics* 22(suppl.): 1–114.
- Brown, Jeffrey R., Norma B. Coe, and Amy Finkelstein. 2007. "Medicaid Crowd-Out of Private Long-Term Care Insurance Demand: Evidence from the Health and Retirement Survey." In *Tax Policy and the Economy*, Vol. 21, James M Poterba, ed. Cambridge, MA: MIT Press, pp. 1–34.
- Bureau Labor Statistics (BLS). 2013a. "Paid Leave in Private Industry over the Past 20 Years." Washington, DC: Bureau of Labor Statistics. <http://bls.gov/opub/btn/volume-2/paid-leave-in-private-industry-over-the-past-20-years.htm> (accessed August 25, 2016).
- . 2013b. "The Last Private Industry Pension Plans." *Economics Daily*, January 3. http://www.bls.gov/opub/ted/2013/ted_20130103.htm (accessed August 25, 2016).
- . 2016. "Employer Costs for Employee Compensation—March 2016." News release, June 10. Washington, DC: BLS.
- Butrica, Barbara, Karen Smith, and Gene Steuerle. 2006. *Working for a Good Retirement*. Washington, DC: Urban Institute.
- Cahill, Kevin, Michael Giandrea, and Joseph Quinn. 2006. "Retirement Patterns from Career Employment." *Gerontologist* 46(4): 514–523.
- . 2011a. "Reentering the Labor Force after Retirement." *Monthly Labor Review* 134(6): 34–42.
- . 2011b. "How Does Occupational Status Impact Bridge Job Prevalence?" BLS Working Paper No. 447. Washington, DC: BLS.
- . 2012. "Older Workers and Short-Term Jobs: Patterns and Determinants." *Monthly Labor Review* 135(5): 19–32.
- . 2015. "Retirement Patterns and the Macroeconomy, 1992–2010: The Prevalence and Determinants of Bridge Jobs, Phased Retirement, and

- Reentry among Three Recent Cohorts of Older Americans.” *Gerontologist* 55(3): 384–403.
- Cantrell, Stephen, and Robert Clark. 1980. “Retirement Policy and Promotional Prospects.” *Gerontologist* 20(5, Part 1): 575–580.
- . 1982. “Individual Mobility, Population Growth and Labor Force Participation.” *Demography* 19(2): 147–159.
- Clark, Robert, and Stephen Cantrell. 1986. “Personnel Policies and the Age Structure of an Occupation: The Case of the Academic Labor Market.” *Population Research and Policy Review* 5(1): 63–82.
- Clark, Robert, and Linda Ghent. 2010. “Strategic HR Management with an Aging Workforce: Using Demographic Models to Determine Optimal Employment Policies.” *Population Research and Policy Review* 29(1): 65–80.
- Clark, Robert, and Melinda Morrill. 2015. *Extending Work-Life of Career Employees: Employer Interests and Concerns*. Final Report to Sloan Foundation. Raleigh, NC: North Carolina State University. https://sites.google.com/a/ncsu.edu/msmorrill/files/ClarkMorrill_EmployerPerspective.pdf?attredirects=0 (accessed August 25, 2016).
- Clark, Robert, Melinda Morrill, and David Vanderweide. 2014. “Defined Benefit Pension Plan Distribution Decisions by Public Sector Employees.” *Journal of Public Economics* 116(August): 73–88.
- Clark, Robert, and Naohiro Ogawa. 1992a. “The Effect of Mandatory Retirement on Earnings Profiles in Japan.” *Industrial and Labor Relations Review* 45(2): 258–266.
- . 1992b. “Employment Tenure and Earnings Profiles in Japan and the United States.” *American Economic Review* 82(1): 336–345.
- Clark, Robert, Naohiro Ogawa, Sang-Hyop Lee, and Rikiya Matsukura. 2008. “Older Workers and National Productivity in Japan.” *Population and Development Review* 34(suppl.): 257–274.
- Conley, Valerie Martin. 2007. *Survey of Changes in Faculty Retirement Policies 2007*. Washington, DC: American Association of University Professors.
- Costa, Dora. 1998. *The Evolution of Retirement: An American Economic History, 1880–1990*. Chicago: University of Chicago Press.
- Fields, Vivian, and Robert Hutchens. 2002. “Regulatory Obstacles to Phased Retirement in the For-Profit Sector.” *Benefits Quarterly* 18(3): 35–41.
- Fitzpatrick, Maria. 2014. “Retiree Health Insurance for Public School Employees: Does It Affect Retirement and Mobility?” *Journal of Health Economics* 38(2008): 88–89.
- Fitzpatrick, Maria, and Michael Lovenheim. 2014. “How Does Teacher Retirement Affect Student Achievement?” *American Economic Journal: Economic Policy* 6(3): 120–154.

- Friedberg, Leora, and Anthony Webb. 2005. "Retirement and the Evolution of Pension Structure." *Journal of Human Resources* 40(2): 281–308.
- Ghent, Linda, Steven Allen, and Robert Clark. 2001. "The Impact of a New Phased Retirement Option on Faculty Retirement Decisions." *Research on Aging* 23(6): 671–693.
- Giandrea, Michael, Kevin Cahill, and Joseph Quinn. 2008. "Self-Employment Transitions among Older American Workers with Career Jobs." BLS Working Paper No. 418. Washington, DC: Bureau of Labor Statistics.
- . 2009. "Bridge Jobs: A Comparison across Cohorts." *Research on Aging* 31(5): 549–576.
- Gustman, Alan, and Thomas Steinmeier. 1983. "Minimum-Hours Constraints and Retirement Behavior." *Contemporary Economic Policy* 1(3): 77–91.
- . 2008. "Projecting Behavioral Responses to the Next Generation of Retirement Policies." In *Work, Earnings and Other Aspects of the Employment Relation (Research in Labor Economics, Vol. 28)*, Solomon W. Polachek and Konstantinos Tatsiramos, eds. Bingley, U.K.: Emerald Publishing Group, pp. 141–195.
- Hashimoto, Masanori, and John Raisian. 1985. "Employment Tenure and Earnings Profiles in Japan and the United States." *American Economic Review* 75(4): 721–735.
- Hellerstein, Judith, and David Neumark. 1995. "Are Earnings Profiles Steeper than Productivity Profiles? Evidence from Israeli Firm-Level Data." *Journal of Human Resources* 30(1): 89–112.
- Hellerstein, Judith, David Neumark, and Kenneth Troske. 1999. "Wages, Productivity, and Worker Characteristics: Evidence from Plant-Level Production Functions and Wage Equations." *Journal of Labor Economics* 17(3): 409–446.
- Henkens, Kène, and Hendrik P. van Dalen. 2011. "The Employer's Perspective on Retirement." NETSPAR Discussion Paper No. 05/2011-053. Tilburg, Netherlands: Network for Studies on Pensions, Aging and Retirement.
- Heywood, John, Uwe Jirjahn, and Georgi Tsertsvardze. 2010. "Hiring Older Workers and Employing Older Workers: German Evidence." *Journal of Population Economics* 23(2): 595–615.
- Hill, Tomeka. 2010. "Why Doesn't Every Employer Have a Phased Retirement Program?" *Benefits Quarterly* 26(4): 29–39.
- Hirsch, Barry, David Macpherson, and Melissa Hardy. 2000. "Occupation Age Structure and Access for Older Workers." *Industrial and Labor Relations Review* 53(3): 401–418.
- Hurd, Michael. 1996. "The Effect of Labor Market Rigidities on the Labor Force Behavior of Older Workers." In *Advances in the Economics of Aging*, David A. Wise, ed. 1st ed. Chicago: University of Chicago Press, pp. 11–60.

- Hurd, Michael, and Susann Rohwedder. 2011. "Trends in Labor Force Participation: How Much Is Due to Changes in Pensions?" *Journal of Population Aging* 4(1–2): 81–96.
- Hutchens, Robert. 1986. "Delayed Payment Contracts and a Firm's Propensity to Hire Older Workers." *Journal of Labor Economics* 4(4): 439–457.
- . 1988. "Do Job Opportunities Decline with Age?" *Industrial and Labor Relations Review* 42(1): 89–99.
- . 1989. "Seniority, Wages and Productivity: A Turbulent Decade." *Journal of Economic Perspectives* 3(4): 49–64.
- Hutchens, Robert, and Karen Grace-Martin. 2006. "Employer Willingness to Permit Phased Retirement: Why Are Some More Willing Than Others?" *Industrial and Labor Relations Review* 59(4): 525–546.
- Hutchens, Robert, and Kerry Papps. 2004. "Developments in Phased Retirement." In *Reinventing the Retirement Paradigm*, Robert A. Clark and Olivia S. Mitchell, eds. 1st ed. New York: Oxford University Press, pp. 133–160.
- Johnson, Richard. 2011. "Phased Retirement and Workplace Flexibility for Older Adults: Opportunities and Challenges." *Annals of the American Academy of Political and Social Science* 638(1): 68–85.
- Kahneman, Daniel, and Amos Tversky. 1979. "Prospect Theory: An Analysis of Decision under Risk." *Econometrica* 47(2): 263–291.
- Kaiser Family Foundation and the Health Research and Educational Trust. 2015. "Employer Health Benefits: 2015 Annual Survey." Menlo Park, CA, and Chicago: Kaiser Family Foundation and Health Research and Educational Trust. <http://files.kff.org/attachment/report-2015-employer-health-benefits-survey> (accessed August 25, 2016).
- Keyfitz, Nathan. 1973. "Individual Mobility in a Stationary Population." *Population Studies* 27(2): 335–352.
- Kotlikoff, Laurence, and Jagadeesh Gokhale. 1992. "Estimating a Firm's Age-Productivity Profile Using the Present Value of Workers' Earnings." *Quarterly Journal of Economics* 107(4): 1215–1242.
- Kotlikoff, Laurence, and Daniel Smith. 1983. *Pensions in the American Economy*. 1st ed. Chicago: University of Chicago Press.
- Kotlikoff, Laurence, and David Wise. 1987. "The Incentive Effects of Private Pension Plans." In *Issues in Pension Economics*, Zvi Bodie, John B. Shoven, and David A. Wise, eds. 1st ed. Chicago: University of Chicago Press.
- Lahey, Joanna. 2008. "State Age Protection Laws and the Age Discrimination in Employment Act." *Journal of Law and Economics* 51(3): 433–460.
- Lazear, Edward. 1979. "Why Is There Mandatory Retirement?" *Journal of Political Economy* 87(6): 1261–1284.
- . 1981. "Agency, Earnings Profiles, Productivity, and Hours Restrictions." *American Economic Review* 71(4): 606–620.

- Leslie, David, and Natasha Janson. 2005. "To Phase or Not to Phase: The Dynamics of Choosing Phased Retirement in Academe." In *Reinventing the Retirement Paradigm*, Robert A. Clark and Olivia S. Mitchell, eds. 1st ed. New York: Oxford University Press, pp. 239–252.
- Levine, Phillip, and Olivia Mitchell. 1988. "The Baby Boom's Legacy: Relative Wages in the Twenty-First Century." *American Economic Review* 78(2): 66–69.
- Loewenstein, George, and Nachum Sicherman. 1991. "Do Workers Prefer Increasing Wage Profiles?" *Journal of Labor Economics* 91(1): 67–84.
- Maestas, Nicole. 2010. "Back to Work: Expectations and Realizations of Work after Retirement." *Journal of Human Resources* 45(3): 718–748.
- Mas, Alexandre, and Enrico Moretti. 2009. "Peers at Work." *American Economic Review* 99(1): 112–145.
- Matsukura, Rikiya, Naohiro Ogawa, and Robert Clark. 2007. "Analysis of Employment Patterns and the Changing Demographic Structure of Japan." *Japanese Economy* 34(1): 82–153.
- McGill, Dan, Kyle Brown, John Haley, Sylvester Schieber, and Mark Warschawsky. 2010. *Fundamentals of Private Pensions*. 1st ed. Oxford: Oxford University Press.
- McGuinness, Kevin. 2014. "Phased Retirement Program Set Up for Federal Employees." PLANSPONSOR.com, August 11. <http://www.plansponsor.com/Phased-Retirement-Program-Set-Up-for-Federal-Employees/> (accessed August 25, 2016).
- Medoff, James, and Katharine Abraham. 1980. "Experience, Performance, and Earnings." *Quarterly Journal of Economics* 95(4): 703–736.
- . 1981. "Are Those Paid More Really More Productive? The Case of Experience." *Journal of Human Resources* 16(2): 186–216.
- Mermin, Gordon, Richard Johnson, and Dan Murphy. 2007. "Why Do Boomers Plan to Work Longer?" *Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 62(5): 286–294.
- Mincer, Jacob. 1974. *Schooling, Experience, and Earnings*. 1st ed. New York: National Bureau of Economic Research.
- Munnell, Alicia, Kevin Cahill, and Natalia Jivan. 2003. "How Has the Shift to 401(k)s Affected the Retirement Age?" Issue Brief No. 13. Chestnut Hill, MA: Center for Retirement Research at Boston College.
- Munnell, Alicia, and Anqi Chen. May 2015. "Trends in Social Security Claiming." Issue Brief No. 15-8. Chestnut Hill, MA: Center for Retirement Research at Boston College.
- Munnell, Alicia, and Steven Sass. 2007. "The Labor Supply of Older Americans." Working Paper No. 2007-12. Chestnut Hill, MA: Center for Retirement Research at Boston College.
- . 2008. *Working Longer: The Solution to the Retirement Income Challenge*. Washington, DC: Brookings Institution.

- National Center for Health Statistics. 2015. *Health, United States, 2015*. Hyattsville, MD: National Center for Health Statistics. <http://www.cdc.gov/nchs/data/abus/abus15.pdf> (accessed September 1, 2016).
- Neumark, David. 2009. "The Age Discrimination in Employment Act and the Challenge of Population Aging." *Research on Aging* 31(1): 41–68.
- Neumark, David, and Patrick Button. 2014. "Did Age Discrimination Protections Help Older Workers Weather the Great Recession?" *Journal of Policy Analysis and Management* 33(3): 566–601.
- Quinn, Joseph, Richard Burkhauser, and Daniel Myers. 1990. *Passing the Torch*. 1st ed. Kalamazoo, MI: W. E. Upjohn Institute for Employment Research.
- Rappaport, Anna. 2001. "Employer Strategies for a Changing Workforce: Phased Retirement and Other Options." *Benefits Quarterly* 17(4): 58–64.
- Riffkin, Rebecca. 2014. "Average U.S. Retirement Age Rises to 62." Washington, DC: Gallup. <http://www.gallup.com/poll/168707/average-retirement-age-rises.aspx> (accessed August 25, 2016).
- Robinson, Christina, and Robert Clark. 2010. "Retiree Health Insurance and Disengagement from a Career Job." *Journal of Labor Research* 31(3): 247–262.
- Schieber, Sylvester, and John Shoven. 1999. *The Real Deal: The History and Future of Social Security*. New Haven, CT: Yale University Press.
- Schultz, Theodore. 1963. *The Economic Value of Education*. 1st ed. New York: Columbia University Press.
- Shoven, John, and Sita Slavov. 2013. *Efficient Retirement Design: Combining Private Assets and Social Security to Maximize Retirement Resources*. Stanford, CA: Stanford Institute for Economic Policy Research. <http://docplayer.net/5675214-Efficient-retirement-design-combining-private-assets-and-social-security-to-maximize-retirement-resources-march-2013.html> (accessed August 25, 2016).
- . 2014a. "Does It Pay to Delay Social Security?" *Journal of Pension Economics and Finance* 13(2): 121–144.
- . 2014b. "Recent Changes in the Gains from Delaying Social Security." *Journal of Financial Planning* 27(3): 32–41.
- . 2014c. "The Role of Health Insurance in the Early Retirement of Public Sector Employees." *Journal of Health Economics* 38(December): 99–108.
- Skirbekk, Vegard. 2008. "Age and Productivity Capacity: Descriptions, Causes and Policy Options." *Aging Horizons* 8(4): 12.
- Social Security Trustees. 2014. *The 2014 OASD Trustees Report*. Washington, DC: Social Security Administration. <http://www.socialsecurity.gov/OACT/tr/2014/tr2014.pdf> (accessed August 24, 2016).
- Switkes, Ellen. 2005. "Phasing Out of Full-Time Work at the University of

- California.” In *Reinventing the Retirement Paradigm*, Robert A. Clark and Olivia S. Mitchell, eds. 1st ed. New York: Oxford University Press, pp. 252–258.
- Toosi, Mitra. 2002. “A Century of Change: The U.S. Labor Force, 1950–2050.” *Monthly Labor Review* 125(5): 15–28.
- . 2015. “Labor Force Projections to 2024: The Labor Force is Growing, but Slowly.” *Monthly Labor Review* (December). <http://www.bls.gov/opub/mlr/2015/article/labor-force-projections-to-2024.htm> (accessed August 25, 2016).
- U.S. Department of Labor. 2008. *Report on Phased Retirement*. Washington, DC: U.S. Department of Labor, Advisory Council on Employee Welfare and Pension Benefit Plans.
- Watson Wyatt Worldwide. 1999. *Phased Retirement: Reshaping the End of Work*. Bethesda, MD: Watson Wyatt Worldwide.
- . 2004. *Phased Retirement: Aligning Employer Programs with Worker Preferences: 2004 Survey Report*. Bethesda, MD: Watson Wyatt Worldwide.
- Wiswall, Matthew. 2013. “The Dynamics of Teacher Quality.” *Journal of Public Economics* 100(C): 61–78.
- Yamamoto, Dale. 2013. *Health Care Costs—From Birth to Death*. Health Care Cost Institute Report. Schaumburg, IL: Society of Actuaries.

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