THE RETIREMENT PROJECT

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Why Do Boomers Plan to Work So Long?

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A crosscutting team of Urban Institute experts in Social Security, Medicare, Medicaid, tax and budget policy, and micro-simulation modeling ponder the aging of American society.

The aging of America raises many questions about what's in store for future and current retirees and whether society can sustain current systems that support the retired population. Who will prosper? Who won't? Many good things are happening too, like longer life and better health. Although much of the baby boom generation will be better off than those retiring today, many face uncertain prospects. Especially vulnerable are divorced women, single mothers, never-married men, high school dropouts, and Hispanics. Even Social Security—which tends to equalize the distribution of retirement income by paying low-income people more then they put in and wealthier contributors less—may not make them financially secure.

Uncertainty about whether workers today are saving enough for retirement further complicates the outlook. New trends in employment, employer-sponsored pensions, and health insurance influence retirement decisions and financial security at older ages. And, the sheer number of reform proposals, such as personal retirement accounts to augment traditional Social Security or changes in the Medicare eligibility age, makes solid analyses imperative.

Urban Institute researchers assess how current retirement policies, demographic trends, and private sector practices influence older Americans' security and decision-making. Numerous studies and reports provide objective, nonpartisan guidance for policymakers.

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Abstract

Recent changes in retirement trends and patterns have raised questions about the likely retirement behavior of baby boomers, the large cohort born between 1946 and 1964. This study compares the retirement expectations of workers ages 51 to 56 in 2004 (who were born between 1948 and 1953, the leading edge of the baby boom) and 1992 (born between 1936 and 1941). Data come from the Health and Retirement Study.

Work expectations increased significantly over the period. Between 1992 and 2004, the mean expected probability of working full-time past age 62 among workers ages 51 to 56 increased from 47 to 51 percent. The increase was even more rapid for the expected mean probability of full-time work after age 65, which grew from 27 to about 33 percent over the period. Controlling for other factors, self employment, education, and earnings increased work expectations at older ages, while defined benefit pension coverage, employer-sponsored retiree health benefits, and household wealth reduced expectations.

Lower rates of retiree health insurance offers from employers, higher levels of educational attainment, and lower rates of defined benefit pension coverage accounted for most of the increase between 1992 and 2004 in expected work probabilities after ages 62 and 65. These trends suggest that the boomers will remain at work longer than the previous generation. The recent uptick in average retirement ages appears to be the leading edge of a new long-term trend. Lengthier careers will likely promote economic growth, increase government revenue, and improve individual financial security at older ages.

Executive Summary

Recent changes in retirement trends and patterns have raised questions about the likely retirement behavior of baby boomers, the large cohort born between 1946 and 1964. Average male retirement ages declined steadily throughout most of the last century, but this trend appears to have ended about 20 years ago, and may have now reversed. Because the reasons behind these changes are not well understood, it is unclear whether the boomers will continue the recent trend toward later retirement or revert to the longer-term trend of earlier retirement. Better information is needed on the boomers' retirement expectations to assess how quickly they will leave the labor force and the likely economic and social impact.

This study compares the retirement expectations of workers ages 51 to 56 born between 1948 and 1953 (early boomers) to those of workers in the same age group born 12 years earlier, between 1936 and 1941 (the pre-war generation). The analysis first compares retirement expectations and demographic and economic characteristics for each generation. Then the study models retirement expectations for both generations to examine the key factors influencing anticipated labor force exits. Finally, estimated regression coefficients and differences in characteristics are used to identify the forces that appear to drive generational differences in retirement expectations.

Data come from the Health and Retirement Study (HRS), a national survey of Americans ages 51 and older conducted by the University of Michigan's Survey Research Center for the National Institute on Aging. The analysis uses self-reported probabilities of working full-time past typical retirement ages as measures of retirement expectations. The survey asks respondents working for pay, "Thinking about work generally and not just your present job, what do you

think are the chances that you will be working full-time after you reach age 62?" The survey asks the same question about work past age 65. The sample consists of 3,963 workers ages 51 to 56 in 1992 (from the pre-war generation) and 2,145 workers in the same age group in 2004 (from the early boomers).

The results show that the older workforce changed rapidly between 1992 and 2004. Many older women moved into the labor force, marriage declined, and educational attainment soared. For example, 37 percent of early boomers graduated from college, compared with only 22 percent of the pre-war generation. Also, traditional employer-sponsored pension plans and retiree health benefits declined rapidly. Between 1992 and 2004, the share of workers ages 51 to 56 with defined benefit pension coverage on the current job fell from 40 to 31 percent.

Work expectations increased significantly over the period. Between 1992 and 2004, the mean expected probability of working full-time past age 62 among workers ages 51 to 56 increased from 47 to 51 percent. The increase was even more rapid for the expected mean probability of full-time work after age 65, which grew from 27 to about 33 percent over the period. In relative terms, work expectations after age 65 were about 23 percent higher for the early boomers than the pre-war generation. Controlling for other factors, self employment, education, and earnings increased work expectations at older ages, while defined benefit pension coverage, employer-sponsored retiree health benefits, and household wealth reduced expectations.

Lower rates of retiree health insurance offers from employers, higher levels of educational attainment, and lower rates of defined benefit pension coverage accounted for most of the increase between 1992 and 2004 in expected work probabilities after ages 62 and 65. The

decline in retiree health benefits accounted for between 30 and 47 percent of the rise in work expectations after age 62 and between 9 and 20 percent of the rise in work expectations after age 65. Between 28 and 33 percent of the increase in the expected probability of working past age 62 could be explained by the increase in college graduation rates among boomers and the decline in high school dropout rates, as could between 13 and 22 percent of the increase in the expected probability of working past 65. The shift away from defined benefit pension plans explained about one-fifth of the increase in expected work probabilities after age 62 and about one-eighth of the increase after age 65. These three factors combined explained between 81 and 100 percent of the increase in expected work probabilities after age 62 and between 35 and 55 percent of the increase after age 65. Other factors had much smaller effects.

Will early boomers in fact delay retirement, and will the trend continue for later boomers? The answer likely depends, in part, on whether the recent trend in work characteristics and demographics continues. The erosion of employer retiree health benefits will likely persist, as health care costs continue to rise. And the trend away from traditional defined benefit plans shows no signs of abating. Taken together, these trends and the study findings suggest that the boomers will remain at work longer than the previous generation. The recent uptick in average retirement ages appears to be the leading edge of a new long-term trend. Lengthier careers will likely promote economic growth, increase government revenue, and improve individual financial security at older ages.

Introduction

The age at which older adults retire affects economic well-being in later life and the relative size of the dependent population. By working longer, people can accumulate more Social Security wealth, employer-sponsored pension wealth, and other savings, while reducing the number of years over which their retirement wealth must finance consumption needs. Encouraging older people to work longer would also increase the total production of goods and services, enhancing living standards and raising government revenues that fund services for both the young and old.

Recent changes in retirement trends and patterns have raised questions about the likely retirement behavior of baby boomers, the large cohort born between 1946 and 1964. Average male retirement ages declined steadily throughout most of the last century, but this trend appears to have ended about 20 years ago, and may have now reversed. Many older people now move from full-time work in career jobs to part-time work in jobs that serve as bridges to retirement, rather than leaving the labor force directly from career employment. Because the reasons behind these changes are not well understood, it is unclear whether the boomers will continue the recent trend toward later retirement or revert to the longer-term trend of earlier retirement. Better information is needed on the boomers' retirement expectations to assess how quickly they will leave the labor force and the likely economic and social impact.

This study examines recent changes in retirement expectations and the factors that may account for differences over time. Using nationally representative data from the Health and Retirement Study (HRS), the analysis compares expected probabilities of working full-time past ages 62 and 65 for 51- to 56-year-old workers in 1992 and 2004. The study models retirement expectations for both generations to examine the key factors influencing anticipated labor supply

at older ages, and then uses the estimated regression coefficients to identify the forces that appear to drive generational differences in retirement expectations.

Consequences of Retirement Decisions

Baby boomers' retirement decisions will have important implications for public and private retirement systems, the economy, and their own financial security. The first of the boomers will reach the Social Security early eligibility age in 2008, and many boomers will leave the labor force in the following decades. In fact, the Social Security actuaries predict the number of workers per retiree will decrease from 3.3 to 2.2 over the next 25 years, and the Social Security system will begin to run a deficit in 2017, becoming insolvent by 2040 (Board of Trustees 2006). Medicare already pays more in benefits than it collects in taxes and will deplete its Hospital Insurance trust fund by 2017, according to current projections (Medicare Board of Trustees 2006). The same demographic challenges confront the employer-sponsored defined benefit (DB) pension system. The Pension Benefit Guarantee Corporation (2005) estimates that the private defined pension plans it insures are underfunded by $650 billion, and the National Association of State Retirement Administrators (2006) estimates state and local pension plans are underfunded by $337 billion.

The retirement of the baby boomers is also likely to significantly reduce labor force growth. According to our calculations from Bureau of Labor Statistics projections (Toosi 2002), the labor force will grow by only 0.7 percent per year over the next two decades, down from 1.4 percent per year over the previous 20 years. The slowdown in the average annual growth rate will be even more striking for the prime-age labor force (ages 25 to 54), falling from 2.1 percent over the last two decades to just 0.3 percent for the next two decades. Some analysts suggest that

slow labor force growth could result in worker shortages or skill gaps that impede economic progress (Aspen Institute 2003; Judy 1999; Nyce and Schieber 2001), although others are skeptical (Cappelli 2005).

In addition to economy-wide impacts, the boomers' retirement decisions will affect their own retirement incomes. Those who delay retirement avoid early retirement reductions to their Social Security and DB pension benefits, accumulate more Social Security and pension credits and other savings, and reduce the number of retirement years that they must fund. By working until age 67 instead of retiring at age 62, for example, a typical worker could gain about $10,000 in annual income at age 75, net of federal income taxes and health insurance premiums (Butrica et al. 2005).

Retirement Trends

Retirement ages declined steadily for men throughout most of the 20th century. In 1870, 84 percent of men ages 65 and over participated in the labor force (Costa 1998). However, the participation rate had fallen to 46 percent by 1950 and to 16 percent in 1990. Participation rates for women ages 65 and over declined slightly between 1950 and 1990, only falling from 10 to 9 percent, as the movement of women into the labor force after World War II mostly offset the general trend towards earlier retirement (Toosi 2002).

Recent economic, social, and demographic trends suggest that boomers may work longer than the previous generation. Improved health and declines in physical job demands leave older people better able to work today than in the past. Between 1982 and 2004 the share of adults ages 55 to 64 reporting fair or poor health declined from 27 to 18 percent (National Center for Health Statistics 2006). Many studies have concluded that poor health is an important predictor

of early retirement (Blau and Gilleskie 2001; Bound et al. 1998; Dwyer and Mitchell 1999; McGarry 2003). Additionally, the share of workers in physically demanding jobs, defined as those that require frequent lifting or carrying of objects weighing more than 25 pounds, declined from 20 percent in 1950 to 8 percent in 1996 (Steuerle, Spiro, and Johnson 1999). Increases in educational attainment mirror the decline in jobs in our knowledge-based economy that require physical effort. Between 1960 and 2004 the share of people over age 25 with some college education increased from 9 to 25 percent, while the share completing high school declined from 58 to 19 percent (U.S. Census Bureau 2005).

Recent Social Security changes increase work incentives at older ages. The normal retirement age for full Social Security benefits recently increased from 65 to 66 and will reach 67 for those born after 1959. Delayed retirement credits have been raised to better compensate retirees who take up benefits after the normal retirement age. Congress also repealed the earnings test, which reduced Social Security benefits for employed recipients older than the normal retirement age who earned more than a limited amount.[1]

Changes in employer-provided pension and retiree health benefits are also likely to encourage boomers to remain at work. Traditional DB pensions, which provide workers with lifetime retirement annuities usually based on years of service and earnings near the end of the career, tend to discourage work at older ages. They often provide substantial subsidies for early retirement and penalize workers who remain on the job past the plan's normal retirement age, because workers who delay retirement by a month forfeit a month of benefits. There is

[1] The earnings test still applies to beneficiaries younger than the normal retirement age. Although beneficiaries whose payments are reduced by the earnings test are compensated with higher future benefits, some evidence suggests that the earnings test reduces work (Friedberg 2000).

substantial evidence that workers in fact respond to the retirement incentives embedded in DB pension plans (see, for example, Stock and Wise 1990).

Over the past 30 years, however, employers have been shifting from traditional DB pensions to defined contribution (DC) plans, which do not encourage early retirement. Between 1975 and 2006 the share of private-sector workers participating in DB plans declined from 39 to 20 percent, while the share participating in DC plans increased from 15 to 43 percent (Bureau of Labor Statistics 2006; Pension and Welfare Benefits Administration 1998). Employers typically make specified contributions into individual DC accounts which workers access at retirement, generally as lump sum payments. Because contributions continue as long as plan participants remain employed and workers with a given account balance can receive the same lifetime benefit regardless of when they chose to begin collecting, DC plans do not generally penalize work at older ages. As a result, people in DC plans tend to work about two years longer than DB participants (Friedberg and Webb 2005), and the shift to DC plans should increase older Americans' labor supply.

The erosion in employer-provided retiree health benefits is also likely to limit early retirement. Retiree health insurance, which pays health expenses for early retirees who have not reached the Medicare eligibility age of 65, discourages work by reducing retirement costs that arise from the loss of employer health benefits. Workers offered retiree health benefits by their employers retire earlier than workers who lose their health benefits (Blau and Gilleskie 2001; Johnson, Davidoff, and Perese 2003; Rogowski and Karoly 2000). However, rising health care costs and the introduction of an accounting rule in 1993 requiring employers to recognize on their balance sheets the full liability of future retiree health costs have led many employers to terminate their retiree health plans. In 2005, only 33 percent of employers with more than 200

employees offered retiree health benefits, down from 68 percent in 1988 (Kaiser Family Foundation and Health Research Educational Trust 2005).

Perhaps in response to these various trends, older adults are now working longer than they did about 20 years ago. Between 1985 and 2005, the share of men in the labor force increased from 46 to 53 percent at ages 62 to 64 and from 24 to 34 percent at ages 65 to 69 (Federal Interagency Forum on Aging Related Statistics 2006). Over the same period, female labor force participation rates rose from 29 to 40 percent at ages 62 to 64 and from 14 to 24 percent at ages 65 to 69.

Several surveys also suggest that boomers intend to work into old age. For example, 68 percent of older workers in one recent poll said they intended to work in retirement (AARP 2003). Another AARP poll found that 38 percent of older workers want to phase gradually into retirement instead of leaving the labor force all together (AARP 2005). A recent MetLife survey found that boomers are increasingly concerned about their ability to afford retirement. Between 2001 and 2005, the share of boomers who reported that they would have enough money to retire before age 65 fell from 56 to 34 percent (MetLife Mature Market Institute 2005). The share never planning to retire increased from 7 to 17 percent.

A closer examination of retirement expectations for the leading edge of the baby boom cohort and the factors influencing those expectations may shed some light on how quickly the generation will exit the labor force. Retirement expectations appear to be reliable predictors of actual retirement behavior (Bernheim 1988; Dominitz 1996; Honig 1996).

Methods

This study compares the retirement expectations of workers ages 51 to 56 born between 1948 and 1953 (early boomers) to those of workers in the same age group born 12 years earlier, between 1936 and 1941 (the pre-war generation). We first compare retirement expectations and demographic and economic characteristics for each generation. Then we model retirement expectations for both generations to examine the key factors influencing anticipated labor force exits. Finally, we use the estimated regression coefficients and differences in characteristics to identify the forces that appear to drive generational differences in retirement expectations.

Our data come from the HRS, a national survey of Americans ages 51 and older conducted by the University of Michigan's Survey Research Center for the National Institute on Aging. The survey collects detailed information on retirement expectations, health status, employment, income, assets, employee benefits, and other topics. It oversamples African Americans and Hispanics but includes sample weights so that estimates represent the underlying national population. Our sample consists of 3,963 workers ages 51 to 56 in 1992 (from the pre-war generation) and 2,145 workers in the same age group in 2004 (from the early boomers).

We use the self-reported probability of working full-time past typical retirement ages as our measure of retirement expectations. The survey asks respondents working for pay, "Thinking about work generally and not just your present job, what do you think are the chances that you will be working full-time after you reach age 62?" The survey asks the same question about work past age 65.[2]

[2] The survey also asked respondents when they expect to "retire," but we do not use this measure because the question changed over time and many respondents did not answer.

We use ordinary least squares (OLS) to model the subjective probabilities of working full-time past ages 62 and 65. Our analysis is grounded in a conceptual framework that assumes that rational workers weigh the costs and benefits of continued employment when making retirement decisions. We hypothesize that factors that increase work benefits will lead to later retirements, whereas factors that raise work costs will lead to earlier retirements. Model regressors that likely reduce the benefits of working at older ages or raise costs (and hence lower the chances of working past normal retirement ages) include DB pension coverage, retiree health benefit offers, poor health, household income net of own earnings, and household wealth. Wealthy workers and those who derive income from sources other than employment face relatively low retirement costs, all else equal, because they can better maintain pre-retirement consumption levels than people with fewer financial resources. Factors in the model that increase work returns or reduce work costs include DC pension coverage, employer-sponsored health insurance coverage, earnings, self-employment, education, and the self-reported probability of surviving to age 75. The cost of working is generally lower for self-employed workers, who typically enjoy more workplace flexibility, than wage and salary workers. Well-educated workers typically face fewer physical job demands and more job flexibility than those with less education. High survival probabilities indicate good health and a relatively long period over which retirement wealth must be spread, increasing the cost of retiring early. The models also control for gender, marital status, race and ethnicity, and foreign birth.

Although most measures in our model are consistent over time, work limitations and retiree health insurance questions differ in 1992 and 2004. We measure poor health status by the presence of a health problem that limits work ability. In 2004, for the first time, the survey did not ask respondents who reported work limitations in the previous interview whether they

continued to experience problems. We assume that work limitations reported in 2002 continued into 2004. Because work limitations sometimes disappear, our assumption may overstate the prevalence of 2004 work limitations (although only 25 percent of our 2004 sample of workers ages 51 to 56 were interviewed in 2002.) The retiree health insurance question also changed. In 1992, the HRS asked respondents whether their employers had "any health insurance plan available to retirees" and whether the plan could cover spouses. In 1996 and later years, it asked whether respondents could continue their employer insurance coverage up to age 65 if they left the employer at the time of the interview, and whether spouses could be covered. The wording change could affect estimated trends.

We express all financial amounts in constant 2004 dollars, adjusted by the change in the Consumer Price Index. Household wealth consists of financial assets (including DC and Individual Retirement Account balances), home equity, and other real assets. We account for differences in family size by dividing married respondents' household wealth and household income net of own earnings by 1.62, the midpoint of the range of household equivalence scales recommended by the National Academy of Science (Citro and Michael 1995).

The final stage of the analysis uses the regression coefficients and changes in characteristics between 1992 and 2004 to identify the major factors explaining the trend in retirement expectations. Following Oaxaca (1973), the difference between the two birth cohorts in the self-reported probability of working past the typical retirement age can be expressed as:

$$\beta_{1992}(\overline{X}_{2004} - \overline{X}_{1992}) + \overline{X}_{2004}(\beta_{2004} - \beta_{1992}) \qquad (1)$$

or

$$\beta_{2004}(\overline{X}_{2004} - \overline{X}_{1992}) + \overline{X}_{1992}(\beta_{2004} - \beta_{1992}) \qquad (2)$$

where $\overline{X}_i$ is the vector of mean explanatory variables for year i (i=1992, 2004) and β_i is the vector of regression coefficients for year i. The first term in equations 1 and 2 represents the portion of the difference in the self-reported probability that can be attributed to differences in observed characteristics between the cohorts, and the second term represents the unexplained portion of the difference. We focus on the first term to identify the major demographic and economic trends that explain changes in expectations. Because the portion of the generational gap accounted for by changes over time in particular characteristics may vary depending on whether pre-war generation coefficients or early boomer coefficients are used, we report results for both equations. We use weighted values for the demographic and economic characteristics and coefficients from weighted regressions so that our results generalize to the population of older American workers.

Results

Table 1 reports demographic and economic characteristics for workers ages 51 to 56 in 1992 and 2004. The comparisons revealed rapid changes in the older workforce over the 12-year period. Perhaps most striking was the sharp increase in educational attainment. For example, 37 percent of early boomers graduated from college, compared with only 22 percent of the pre-war generation. Whereas about 22 percent of the pre-war generation failed to complete high school, all but 10 percent of early boomers obtained their high school degrees.

Generational differences also reflected increases in female labor force participation and declines in marriage. Women made up about 50 percent of workers ages 51 to 56 in 2004, but

Table 1. Demographic and Economic Characteristics of Workers Ages 51 to 56, 1992 and 2004

	1992	2004
Share With Characteristic (%)		
Female	45.5	50.1***
Married	74.9	70.8***
Education		
Did not complete high school	22.1	10.1***
High school graduate	55.6	52.9
College graduate	22.4	37.0***
Race		
White, other	85.0	83.0
African American	9.2	9.1
Hispanic	5.9	8.0
Foreign Born	9.4	9.8
Pension Coverage (current job)		
DB	39.9	30.5***
DC	33.5	45.8***
None	42.3	39.2*
Employer Health Insurance Coverage	63.0	64.8
Employer Retiree Health Insurance Offer	55.7	38.7***
Any Health-Related Work Limitation	8.7	10.4*
Self Employed	18.1	16.3
Mean Value		
Self-Reported Probability of Surviving to Age 75	66.9	65.5
Earnings ($2004)	43,064	57,445***
Other Household Income ($2004)	23,904	31,944***
Household Wealth ($2004)	204,237	284,281***
N	3,963	2,155

Source: Authors' estimates from the Health and Retirement Study (HRS).

Note. Household wealth consists of financial assets (including DC and Individual Retirement Account balances), home equity, and other real assets. Other household income includes spouse earnings, capital income, pensions, and government transfers. To account for differences in family size, married respondents' household wealth and other income are divided by 1.62. Estimates are weighted to account for the HRS sampling probabilities.
Asterisks indicate significant differences between 1992 and 2004:
* p < .10; ** p < .05; *** p <.01

only 46 percent in 1992. From 1992 to 2004, the share married declined from about 75 to 71 percent. Although the share of immigrants and Hispanics in the population increased during the 1990s (U.S. Census Bureau 2001a, 2001b), these trends were not apparent in the older workforce.

Traditional employer-sponsored pension plans and retiree health benefits declined substantially over the period. Between 1992 and 2004, the share of workers ages 51 to 56 with DB pension coverage on the current job fell from about 40 to 31 percent, while the share with DC plan coverage increased from about 34 to 46 percent. The portion of workers in their early and mid 50s with no pension coverage on the current job fell by about 3 percentage points over the period, to 39 percent. Although the prevalence of health insurance coverage on the job was similar for each generation, only about 39 percent of employed early boomers reported that their employers offered health benefits to retirees, down from about 56 percent for the pre-war generation.

The prevalence of work limitations among older workers did not fall over the period. In 2004, about 10 percent of workers ages 51 to 56 reported work limitations, up from 9 percent in 1992. Dropping from the 2004 sample respondents interviewed in 2002—who we assumed had work limitations in 2004 if they reported problems in 2002—reduced the share of workers with work limitations to about the same level as in 1992. The lack of health improvement over time did not appear to result from the movement of disabled workers into the labor force. Among all HRS respondents ages 51 to 56, regardless of employment status, 18 percent reported work limitations in 1992, compared with 19 percent in 2004 (among those not interviewed in 2002); the difference was not statistically significant. Consistent with the lack of improvement in work

limitations, the self-reported probability of surviving to age 75 did not change significantly over time. The persistence of health problems may be related to rising diabetes and obesity rates among older Americans (Centers for Disease Control and Prevention 2005, 2006).

The early boomers reported more financial resources than the pre-war generation. Between 1992 and 2004 mean real earnings increased from about $43,000 to $57,000, mean real other household income increased from about $24,000 to $32,000, and mean real household wealth increased from $204,000 to $284,000. Much of these gains, however, were concentrated near the top of the distribution, as median resources increased more slowly. Median real earnings grew from $33,000 to $41,000, median real other income grew from $15,000 to $18,000, and median real wealth grew from $97,000 to $119,000.

Table 2 shows mean self-reported expected probabilities of working full-time past age 62—the first year people can start receiving Social Security retired worker benefits—for workers ages 51 to 56 in 1992 and 2004. Work expectations increased significantly over the period, with early boomers reporting a 51 percent chance of full-time work after age 62, compared with 47 percent for the pre-war generation. Except for Hispanics, immigrants, and those who did not complete high school, the probability of working past age 62 increased for all groups we examined, although the differences were not always statistically significant. The increase was especially striking for workers with DC plans, for whom work probabilities rose from 45 percent in 1992 to 52 percent in 2004.

Workers facing relatively high retirement costs or high returns to work generally reported higher work expectations. For example, mean work probabilities were especially high among college graduates, workers who expressed confidence in surviving to age 75, workers without

Table 2. Mean Expected Probability of Working Full Time Past Age 62, Among Workers Ages 51 to 56 (%)

	1992		2004	
	N	Mean	N	Mean
All	3963	47.2	2155	50.7 ^
Gender				
Male	2123	51.1	996	55.6 ^
Female	1840	42.5 ***	1159	45.8 ***,^
Marital Status				
Married	2985	45.7	1507	48.7 ^
Single	978	51.4 ***	646	55.4 ***
Education				
Did not complete high school	999	44.0	270	43.8
High school graduate	2159	46.8 *	1,143	50.3 **,^
College graduate	805	51.1 ***	742	53.2 ***
Race				
White, other	2999	47.7	1,607	51.7 ^
African American	633	40.8 ***	291	45.0 ***
Hispanic	331	49.5	257	47.0 **
Nativity				
Native Born	3558	46.5	1,886	51.2 ^
Foreign Born	405	53.1 **	269	46.3 **
Pension Coverage (current job)				
No Coverage	1704	51.1	872	51.7
DB	1542	41.8 ***	639	45.5 **
DC	1257	44.5 ***	927	52.4 ^
Employer Health Insurance Coverage?				
Yes	2443	47.1	1,371	51.4 ^
No	1490	47.6	783	49.3
Employer Retiree Health Insurance Offer?				
Yes	2136	41.6	801	45.8 ^
No	1783	53.8 ***	1,330	53.9 ***
Health Limits Ability to Work?				
Yes	341	40.5	224	44.7
No	3621	47.8 ***	1,927	51.4 **,^
Self Employed?				
Yes	690	57.4	341	59.2
No	3273	44.9 ***	1813	49.1 ***,^
Earnings				
Bottom third	1331	45.2	719	46.9
Middle third	1356	48.8	723	53.6 ***,^
Top third	1276	47.4	713	51.3 **
Wealth				
Bottom third	1323	52.6	718	53.7
Middle third	1319	46.0 ***	719	52.0 ^
Top third	1321	44.0 ***	718	47.2 ***,^
Probability of Surviving Past 75				
1 - 50	1218	43.8	717	48.9 ^
51 - 80	1158	47.6 **	723	53.3 **,^
81- 100	1123	50.9 ***	564	52.7 *
0	199	32.1 ***	96	34.8 ***

Source: Authors' estimates from the Health and Retirement Study.
Note. Household wealth consists of financial assets (including DC and Individual Retirement Account balances), home equity, and other real assets. Other household income includes spouse earnings, capital income, pensions, and government transfers. To account for differences in family size, married respondents' household wealth and other income are divided by 1.62. Estimates are weighted to account for the HRS sampling probabilities. Asterisks indicate significant differences between the given value and the value in the first row for the group (* p < .10; ** p < .05; *** p <.01). ^ indicates significant difference (p < .05) in the mean value for the given group between 1992 and 2004.

access to retiree health benefits, and the self-employed. The mean probability of remaining at work full-time beyond age 62 reached 59 percent in 2004 for self-employed workers ages 51 to 56. Conversely, workers who faced difficult employment conditions, who did not gain much by remaining at work, or who could retire without lowering their living standards were less likely to expect to remain employed at older ages. These workers included those with DB pension coverage, those with work limitations, and those in the top third of the household wealth distribution. Additionally, men, single adults, and whites reported higher work expectations than women, married adults, and African Americans or Hispanics.

Table 3 compares mean expected probabilities of working full-time past age 65 for workers ages 51 to 56 in 1992 and 2004. The mean probability rose about 6 percentage points over the period, from about 27 to about 33 percent, nearly double the increase in the mean probability of working full-time past age 62. In relative terms, work expectations after age 65 were about 23 percent higher for the early boomers than the pre-war generation. Except for foreign born adults, work expectations increased for all of the groups we examined, and the increases were statistically significant for all groups except Hispanics, those without pension coverage or employer retiree health benefits, and the self-employed.

Table 4 shows coefficients and standard errors from weighted OLS regressions of the self-reported probability of working full-time past age 62 in 1992 and 2004. The findings generally confirmed our hypothesis that older workers were more likely to remain employed as both the benefits of working and the costs of retiring increased. For example, workers with DB pension coverage, who typically lose pension wealth if they delay retirement, were about 8 percentage points less likely to expect to remain employed after age 62 than other workers, holding other factors constant. Work expectations in 2004 were about 11 percentage points

Table 3. Mean Expected Probability of Working Full Time Past Age 65, Among Workers Ages 51 to 56 (%)

	1992		2004	
	N	Mean	N	Mean
All	3963	26.6	2155	32.8 ^
Gender				
Male	2123	29.7	996	36.5 ^
Female	1840	22.9 ***	1159	29.1 ***,^
Marital Status				
Married	2985	25.0	1507	31.0 ^
Single	978	31.2 ***	646	37.0 ***,^
Education				
Did not complete high school	999	23.3	270	29.4 ^
High school graduate	2159	26.1 **	1,143	32.2 ^
College graduate	805	30.8 ***	742	34.5 **,^
Race				
White, other	2999	26.7	1,607	33.3 ^
African American	633	21.8 ***	291	27.9 **,^
Hispanic	331	31.6 ***	257	32.5
Nativity				
Native born	3558	26.1	1,886	33.1 ^
Foreign born	405	31.4 **	269	29.6 *
Pension Coverage (current job)				
No Coverage	1704	34.4	872	37.0
DB	1542	19.0 ***	639	26.1 ***,^
DC	1257	21.7 ***	927	31.7 ***,^
Employer Health Insurance Coverage?				
Yes	2443	24.1	1,371	31.7 ^
No	1490	31.1 ***	783	34.7 **,^
Employer Retiree Health Insurance Offer?				
Yes	2136	20.8	801	28.9 ^
No	1783	33.6 ***	1,330	35.2 ***
Any Health-Related Work Limitations?				
Yes	341	21.9	224	29.7 ^
No	3621	27.0 ***	1,927	33.1 ^
Self Employed?				
Yes	690	42.3	341	45.0
No	3273	23.1 ***	1813	30.3 ***,^
Earnings				
Bottom third	1331	27.8	719	32.3 ^
Middle third	1356	25.4	723	34.2 ^
Top third	1276	26.5	713	31.8 ^
Household Wealth				
Bottom third	1323	31.3	718	36.4 ^
Middle third	1319	23.8 ***	719	32.8 *,^
Top third	1321	25.4 ***	718	29.9 ***,^
Probability of Surviving Past 75				
1 - 50	1218	23.6	717	30.8 ^
51 - 80	1158	26.7 **	723	34.9 **,^
81- 100	1123	29.8 ***	564	34.8 **,^
0	199	15.4 ***	96	20.5 ***

Source: Authors' estimates from the Health and Retirement Study.
Note. Household wealth consists of financial assets (including DC and Individual Retirement Account balances), home equity, and other real assets. Other household income includes spouse earnings, capital income, pensions, and government transfers. To account for differences in family size, married respondents' household wealth and other income are divided by 1.62. Estimates are weighted to account for the HRS sampling probabilities. Asterisks indicate significant differences between the given value and the value in the first row for the group (* $p < .10$; ** $p < .05$; *** $p < .01$). ^ indicates significant difference ($p < .05$) in the mean value for the given group between 1992 and 2004.

Table 4. Coefficients (with standard errors) from Regressions of Expected Probability of Working Past 62

	1992		2004	
Male	8.586	***	9.046	***
	(1.386)		(1.515)	
Married	-5.408	***	-6.851	***
	(1.710)		(2.211)	
Education				
Did not complete high school	-4.952	***	-5.198	*
	(1.351)		(2.677)	
[Reference: High school graduate]	…		…	
College graduate	4.074	***	2.465	
	(1.445)		(2.009)	
Race and Ethnicity				
[Reference: White or other]	…		…	
African American	-7.111	***	-7.536	***
	(2.008)		(2.352)	
Hispanic	-1.034		-0.278	
	(2.154)		(3.223)	
Foreign Born	4.221		-5.010	*
	(2.732)		(2.795)	
Pension Coverage				
DB	-7.500	***	-8.477	***
	(1.461)		(2.275)	
DC	-3.064	*	2.654	
	(1.675)		(1.730)	
Employer Health Insurance Coverage	6.559	***	3.839	***
	(1.516)		(1.629)	
Employer Retiree Health Insurance Offer	-9.779	***	-6.400	***
	(1.360)		(1.479)	
Health-Related Work Limitation	-7.403	***	-6.997	***
	(2.161)		(2.850)	
Self Employed	8.998	***	10.705	***
	(2.026)		(2.899)	
Self-Reported Probability of Living to 75	0.143	***	0.139	***
	(0.031)		(0.031)	
Earnings (in 100,000 of 2004 dollars)	-0.037		2.410	***
	(1.600)		(0.962)	
Income (in 100,000 of 2004 dollars)	-4.570	*	-3.930	*
	(2.380)		(2.050)	
Wealth (in 100,000 of 2004 dollars)	-0.364	*	-0.548	***
	(0.199)		(0.212)	
Constant	43.085		44.641	
Mean Expected Probability of Working Past 62	47.15		50.7	
N	3,963		2,155	
R^2	0.089		0.099	

Source: Authors' estimates, based on data from the HRS.
Note: Weighted OLS regressions on a sample of workers ages 51 to 56. See table 2 for additional details.
* p < .10; ** p < .05; *** p <.01

higher for the self-employed, who generally enjoy flexible workplaces, than wage and salary workers. Wealth, income, and the availability of employer-sponsored retiree health benefits, all of which make retirement more affordable, lowered work expectations. Earnings and the availability of employer health benefits while working, which raise the gains from work, increased employment expectations at older ages in 2004. People with work limitations were significantly less likely to expect to remain employed than people in better health, whereas workers who expected to survive past age 75 were more likely to remain employed than those with lower self-assessed survival probabilities. Women, married adults, and African Americans were significantly less likely to expect to work past age 62 than men, single adults, and whites.

Table 5 reports results from weighted OLS regressions of the self-reported probability of working past age 65 in 1992 and 2004. The estimates were quite similar to those reported in table 4 for the probability of working past age 62. Self-employment exerted an even larger impact on the expectation of working past age 65 than age 62, increasing the probability by about 13 percentage points. However, employer health insurance coverage for workers did not significantly increase work expectations after age 65, probably because Medicare benefits begin at 65. Earnings were also insignificant predictors of work expectations past age 65.

Table 6 identifies the demographic and economic trends that most contribute to the increase in work expectations across the two cohorts. The table shows the portion of the increase in average work probabilities past ages 62 and 65 attributable to changes in each characteristic, according to the Oaxaca (1973) decomposition. The contribution of each trend was calculated by multiplying the regression coefficients reported in tables 4 and 5 by the change in characteristics reported in table 1. Because the share attributed to each factor depended on whether we used

Table 5. Coefficients (with standard errors) from Regressions of Expected Probability of Working Past Age 65

	1992		2004	
Male	7.290	***	7.269	***
	(1.097)		(1.496)	
Married	-7.071	***	-6.116	***
	(1.451)		(2.083)	
Education				
Did not complete high school	-5.550	***	-3.051	
	(1.346)		(2.238)	
[Reference: High school graduate]	…		…	
College graduate	4.776	***	3.000	
	(1.319)		(1.872)	
Race and Ethnicity				
[Reference: White or other]	…		…	
African American	-4.619	***	-6.590	***
	(1.305)		(2.320)	
Hispanic	3.823	*	2.143	
	(2.001)		(2.993)	
Foreign Born	1.425		-5.666	**
	(2.480)		(2.627)	
Pension Coverage				
DB	-8.696	***	-8.652	***
	(1.399)		(1.704)	
DC	-4.715	***	-0.475	
	(1.308)		(1.867)	
Employer Health Insurance Coverage	1.451		0.504	
	(1.291)		(1.422)	
Employer Retiree Health Insurance Offer	-7.265	***	-3.189	**
	(1.180)		(1.498)	
Health-Related Work Limitation	-5.928	***	-4.708	*
	(1.596)		(2.417)	
Self Employed	12.593	***	13.097	***
	(1.997)		(2.583)	
Self-Reported Probability of Surviving to 75	0.118	***	0.136	***
	(0.018)		(0.030)	
Earnings (in 100,000 of 2004 dollars)	1.310		1.040	
	(1.450)		(0.837)	
Income (in 100,000 of 2004 dollars)	-2.030		-3.660	**
	(1.950)		(1.790)	
Wealth (in 100,000 of 2004 dollars)	-0.290	**	-0.439	***
	(0.147)		(0.150)	
Constant	26.678		28.703	
Mean Expected Probability of Working Past 65	26.55		32.76	
N	3,963		2,155	
R^2	0.123		0.095	

Source: Authors' estimates, based on data from the HRS.
Note: Weighted OLS regressions on a sample of workers ages 51 to 56. See table 2 for additional details.
* p < .10; ** p < .05; *** p <.01

Table 6. Share of Change in Expected Probability of Working Past Ages 62 and 65 Due to Changes Over Time in Personal Characteristics (%)

	Past 62		Past 65	
	Using 1992 Coefficients	Using 2004 Coefficients	Using 1992 Coefficients	Using 2004 Coefficients
Gender	-11.0	-11.6	-5.4	-5.3
Marital Status	6.2	7.9	4.7	4.0
Educational Attainment	33.4	27.6	21.9	12.9
DB Pension Coverage	19.9	22.5	13.2	13.2
DC pension Coverage	-10.3	9.0	-9.1	-0.9
Retiree Health Insurance Coverage	46.5	30.4	19.8	8.7
Earnings	-0.2	9.7	3.0	2.4
Other Income	-10.3	-8.9	-2.6	-4.7
Wealth	-8.2	-12.3	-3.7	-5.7

Source: Authors' estimates, based on data from the HRS.
Note: The change in self-reported probability due to characteristic x based on 1992 coefficients equals $B_{1992}(X_{2004} - X_{2002})$ and the change based on 2004 characteristics equals $B_{2004}(X_{2004} - X_{2002})$.

coefficients from the 1992 regressions of those from 2004, we report separate results based on both sets of coefficients.

Lower rates of retiree health insurance offers from employers, higher levels of educational attainment, and lower rates of defined benefit pension coverage accounted for most of the increase between 1992 and 2004 in expected work probabilities after ages 62 and 65. The decline in retiree health benefits accounted for between 30 and 47 percent of the rise in work expectations after age 62 and between 9 and 20 percent of the rise in work expectations after age 65. Between 28 and 33 percent of the increase in the expected probability of working past age 62 could be explained by the increase in college graduation rates among boomers and the decline in high school dropout rates, as could between 13 and 22 percent of the increase in the expected probability of working past 65. The shift away from DB pension plans explained about one-fifth of the increase in expected work probabilities after age 62 and about one-eighth of the increase after age 65. These three factors combined explained between 81 and 100 percent of the increase in expected work probabilities after age 62 and between 35 and 55 percent of the increase after

age 65. Other factors had much smaller effects. For example, the decline in marriage rates explained no more than 8 percent of the rise in work expectations. The trend toward higher income and wealth and the movement of women into the labor force reduced expected employment at older ages below the levels that would have prevailed if income, wealth, and female labor force participation had remained at their 1992 levels.

Discussion

Our results show that early boomers expect to work longer than people born 12 years earlier. The mean probability of working full-time beyond age 65 reached 33 percent for workers ages 51 to 56 in 2004, up from 27 percent for workers in the same age in 1992. But will early boomers in fact delay retirement, and will the trend continue for later boomers? The answer likely depends, in part, on whether the recent trend in work characteristics and demographics continues.

The erosion of employer retiree health benefits, which explains as much as half of the increase in work expectations, will likely persist. Although the decline in retiree health insurance offers occurred mostly in the late 1980s and early 1990s as new accounting regulations took hold, rising health care costs will likely lead to further coverage declines (McCormack et al. 2002; GAO 2001). Between 2003 and 2004, for example, the cost to large employers of providing retiree health insurance increased by 13 percent (McArdle et al. 2004). The aging of the workforce will further pressure employers who provide retiree health insurance. Unlike rules governing DB pension plans, federal law does not force employers to set aside funds for future retiree health benefits or prevent them from cutting promised benefits. Even if coverage rates do not decline further, employers are likely to shift costs to retirees. In 2005, 85 percent of large

employers offering retiree health benefits said they were likely to increase retiree contributions in the coming year, and 18 percent said were likely to make retirees pay the entire premium (McArdle et al. 2004).

The trend away from DB pensions, which explains as much as 23 percent of the increase in work expectations, shows no signs of abating. For example, Watson Wyatt (2006) found that many employers terminated or froze their DB pension plans between 2004 and 2006, and 15 percent of employers surveyed by Hewitt Associates in 2006 reported that they were likely to close their plans to new employees in the coming year (Taub 2006).

Additionally, a recent court decision and federal legislation will likely encourage employers to convert their traditional DB pension plans to cash balance plans, which do not generally penalize work at older ages. Employers offering cash balance plans, which combine elements of DC and traditional DB plans, regularly set aside a given percentage of salary for each employee and credit interest on these contributions. Like DC plans, cash balance plans create strong work incentives because additional plan contributions increase workers' account balances. Although many employers switched to cash balance plans during the 1990s, recent legal challenges put future conversions on hold. In August 2006, however, the Seventh Circuit Court of Appeals ruled that cash balance plans do not violate age discrimination rules, and President Bush signed the Pension Protection Act of 2006, declaring that cash balance plans are not age discriminatory.

Demographic trends that encourage work at older ages are also likely to continue. The share of young adults with college degrees reached an all time high in 2003, but declined in the late 1970s and early 1980s before increasing in the 1990s (U.S. Census Bureau 2004). As a

result, the share of workers approaching retirement with a college education will likely stagnate over the coming decade, but then rise in later years. Declining marriage rates will likely raise for the foreseeable future the share of workers approaching retirement who are single (Smith and Toder 2005). The movement of women into the labor force, which reduced work expectations between 1992 and 2004, is likely to slow in the future. Between 1984 and 2004, labor force participation rates for women ages 45 to 54 increased from 62 to 77 percent between 1984 and 2004, but will increase to only 78 percent by 2014, according to Bureau of Labor Statistics projections (Toosi 2005). However, rising real incomes and wealth will somewhat reduce employment at older ages.

Taken together, these trends and our HRS analysis suggest that the boomers will remain at work longer than the previous generation. The recent uptick in average retirement ages appears to be the leading edge of a new long-term trend. Lengthier careers will likely promote economic growth, increase government revenue, and improve individual financial security at older ages.

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