Who Is Delaying Retirement?
Analyzing the Increase in Employment at Older Ages

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AMERICANS PAST AGE 60 are delaying their withdrawal from the workforce. This development represents the reversal of trend toward early retirement that lasted longer than a century. The trend toward earlier labor force exit came to an end for U.S. men between the mid-1980s and mid-1990s (Burtless and Quinn 2001 and 2002; Bosworth and Burtless 2011). Since reaching a low point in the 1985-1995 decade, the labor force participation rate of 60-64 year-old men has increased more than 6 percentage points (about one-eighth), and the participation rate among 65-69 year-old men has increased about 13 percentage points (more than half). Participation rates among American women in the same age groups have increased even faster, especially when the change is measured in proportional terms.

One explanation for this reversal is a change in incentives for work in later life. Incentives changed as a result of reforms in the U.S. Social Security system and the gradual evolution of the nation's employer-based occupational pension system. In comparison to the 1970s and early 1980s, Social Security retirement benefits now provide fewer and smaller disincentives to work after workers reach the benefit-claiming age. Employer-sponsored retirement plans are now more likely to offer defined-contribution pensions rather than defined-benefit pensions. The latter type of plan can create powerful incentives for workers to leave career jobs after they have attained the earliest benefit-claiming age. In contrast, defined-contribution plans create much weaker incentives to retire at a particular age. Finally, the elimination of many employer-funded retiree health plans combined with steep increases in the cost of health insurance has made it riskier for workers too young for Medicare to leave jobs which provide a health plan (Burtless and Quinn 2001; see also Anderson et al. 1999).

The goal of this paper is to identify the groups in successive birth cohorts that have delayed their retirement in the era since the retirement age began to rise. Its aim is to answer a handful of specific questions about the trend toward later job exit that has occurred in the past

quarter century: How big is the delay in retirement compared with the job exit patterns we saw in the late 1980s? Do groups delaying retirement earn above-average wages? Do the workers retiring at later ages have more schooling than average, or do they have below-average educational credentials? Does later retirement primarily take the form of part-time work, or have aged workers also seen an increase in full-time jobs? Have older workers delayed their departure from their career jobs? Or have they taken "bridge jobs" that have less responsibility, lower hours, or worse pay than their previous jobs?

The analysis is performed using Current Population Survey (CPS), which provides detailed monthly data on the labor force status of adults in approximately 60,000 households every month. The available monthly files cover the span from 1977 up to the present. During the first decade of the period, the average retirement age declined; during the most recent two and a half decades, the average age at retirement has increased.   Each section will address one of the questions just mentioned, and the paper will conclude with a summary of results.

1. How much has participation increased at older ages?

At the beginning of the twentieth century, retirement was uncommon but not unknown. Two out of three men past age 65 were gainfully employed, but about one out of three was not (U.S. Department of Commerce, Bureau of the Census 1975). By 1950 retirement was much more common. Only about 46% of men 65 and older held a job or were actively seeking work. The labor force participation rate of aged men continued to decline and reached a low point in 1991. In that year less than 16 percent of men over 65 were employed or actively seeking a job. The proportion of women past 65 who were employed also fell during much of the twentieth century, but the reduction was far smaller than among men because the percentage of older women in paid work had always been modest.

Changes in age-specific participation rates. The percentage of the older population that is in the workforce is affected not only by age-specific participation rates but also by the age profile of elderly Americans. As survival rates have improved, the number of people surviving past 80 has increased. On the other hand, the entry of the large baby boom generation into its retirement years will temporarily increase the proportion of the aged population that is older than 65 but younger than 75. To eliminate the effect of the changing age composition of the elderly population, we can examine the trend in labor force participation rates at specific ages. Figures 1 and 2 show participation rates at ages 60, 62, 65, and 68 during the 45 years after 1965. The two

figures show participation rates for women and men, respectively. The tabulations, performed by the U.S. BLS based on monthly CPS data, show a decline in participation rates through the early to mid-1980s among women and a drop through the early 1990s among men. For both men and women participation rates have increased in the past two decades, and by proportionately larger amounts at older ages. Among 68-year-old men, for example, the participation rate increased by more than half between 1991 and 2010. Among 68-year-old women, the participation rate increased by about two-thirds.

The estimates of male participation rates in Figure 2 can be compared to those of Ransom, Sutch, and Williamson (1991) for 1910, derived from the decennial Census for that year. Between 1910 and 1991 there were sizeable drops in male participation rates at ages 60, 62, 65, and 68. At age 65, for example, the male participation rate shrank 46 percentage points, falling from 77% in 1910 to 31% in 1991. At age 60, the male participation rate continued to decline, although very slightly, after 1991. At ages 62, 65, and 68, however, participation rates rebounded after 1991, erasing about one-quarter of the participation-rate drop that had occurred between 1910 and 1991. Participation rates at older ages remain far below their levels at the beginning of the twentieth century, but at ages past 62 participation rates have increased markedly above their low points in the early 1990s.

Persistence in the labor force. Another way to interpret age-specific participation rates covering many calendar years is to calculate the rate at which workers who were in the labor force in a given year and at a given age (say, age 57) remain in the workforce at successively higher ages. I have estimated cohort labor force participation "persistence rates" at successive ages between 60 and 80 separately for women and men (Figures 3 and 4). My estimates were obtained from BLS-supplied tabulations of monthly CPS files covering calendar years 1976-2010. In each calendar year BLS analysts calculated the LFPR for persons at each individual year of age between 60 and 80. To determine the cohort persistence rate at a given age, I computed the LFPR at that age as a percentage of the LFPR of persons in the cohort when the cohort was 57 years old.[1] Figure 4 shows the results of these calculations for four cohorts of men. The oldest cohort was age 60 in 1975; the youngest was 60 in 2005; the other cohorts were 60 in 1985 and 1995, respectively. Each line in the chart shows the rate of labor force

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[1] As an approximation of the LFPR at age 57, I used the BLS estimate of the average LFPR for persons between ages 55-59 in the years the cohort was 56, 57, and 58 years old.

withdrawal of a cohort at successive years of age from 62 through 74. For example, when the youngest cohort was 62 years old, the LFPR of men in the cohort was 74% of the LFPR of men in this cohort when they were 57 years old (see Figure 4).   At age 63, the LFPR of this same cohort was 70% of the cohort's LFPR when it was 57 years old. Not surprisingly, the LFPR of a cohort generally falls in successive years. Only 4 years of labor force reductions are displayed for the youngest cohort, because the reductions in the fifth and later years cannot be calculated without data from years after 2010.

A critical point to note in Figures 3 and 4 is that labor force persistence has increased in recent cohorts compared with earlier ones. For example, in the oldest male cohort, which was 60 in 1975, the LFPR at age 66 was 33% of the cohort's LFPR at age 57 (see Figure 4). In the male cohort that attained 60 in 1995, the LFPR at age 66 was 43% of the cohort's LFPR at age 57. Thus, the LFPR fell considerably more slowly between ages 57 and 66 for the younger cohort compared with the older one. The persistence rates through age 65 for the cohort that attained 60 in 2005 suggest that this trend continues and in fact has become more pronounced at ages 62 to 65. The results in Figure 4 imply that men who are in the labor force in their late 50s are now leaving the workforce at a slower rate than was the norm 20 years ago. In other words, the younger cohort is more persistent in remaining in the labor force. The same pattern of delayed retirement is evident among women (see Figure 3). Recent cohorts have been more persistent in remaining in the workforce than was common two decades ago.

Figure 5 shows how much this persistence has increased at various ages between 60 and 79. I have calculated the increase in the LFPR at successive ages measured as a percent of the cohort's LFPR at age 57. These calculations are performed at individual ages between 60 and 79.   After tabulating the persistence rates in 1988-1990 and 2008-2010, I calculated the increase in persistence at the indicated ages between the two sets of years. (I averaged together the persistence rates for three years at the start and the end of the analysis period in order to reduce the impact of year-to-year variability in measuring cohorts' participation persistence rates.)   The top panel in Figure 5 shows the increased persistence of old-age labor force participation among women. The bottom panel shows the same set of results for men. For both women and men the trends in persistence are comparable. The increase in persistence is modest at ages 60 and 61, peaks at age 65, remains relatively high through age 72, and then declines. Except at ages 60-61 and 77-79, the increase in labor force persistence has been greater for men than for women.

2. Do workers postponing retirement earn below-average wages?

The tabulations in Figures 1 through 5 show unambiguously that both labor force participation and the persistence of labor force engagement has increased in the past quarter century. The statistics do not shed any direct light on the kinds of workers who are postponing retirement. The next two sections attempt to provide some evidence on this question. The current section shows how the relative wages of the older working population have changed over time. I focus on wage and salary earners who are 62 years old or older, because these are the older workers who have seen the largest proportionate increases in participation and labor force persistence (see Figure 5).

In order to perform the analysis I estimated the age profile of hourly wages separately for calendar years 1985-1991 and 2004-2010 using wage data reported in the monthly outgoing rotation group (ORG) CPS files (Schmitt 2003). The files contain about 25,000 worker records per month, or approximately 300,000 per calendar year. Given the large sample size, we can precisely estimate average and median earnings within narrow age groups. I divided each year's 25-to-74 year-old male and female samples into nine 5-year age groups plus two age groups— 60-61 and 62-64—that distinguish between people in their early 60s on the basis of their potential eligibility for Social Security retired worker benefits. The first seven years of the analysis period, 1985-1991, represent years when the trend toward early retirement reached an end. The last seven years, 2004-2010, represent recent years in which old-age labor force participation rates have rebounded. Even though the second period included one of the worst recessions in the post-war era, the average unemployment rates in the two sets of years are similar. The civilian unemployment rate averaged 6.2% between 1985 and 1991, and it averaged 6.4% between 2004 and 2010.

Table 1 shows estimates of the change in a variety of indicators of women's and men's old-age labor supply between 1985-1991 and 2004-2010. (These estimates were derived from tabulations of *all* the monthly CPS files in 1985-1991 and 2004-2010 rather than just the ORG files.) Labor supply changes are separately shown for women and men between ages 62 and 64, 65 and 69, and 70-74. In the nearly two decades between the two sets of estimates, labor force participation rates increased between 6.4 percentage points and 13.2 percentage points in the case of women and increased between 6.9 percentage points and 9.1 percentage points in the case of older men. The other indicators of labor supply increased in these age groups as well,

and the increases were proportionately as large, relative to baseline labor supply, as the increases in labor force participation.

Figure 6 shows the age profiles of relative hourly earnings in the two sets of years. In each narrow age group, the average wage is measured relative to the mean wage of women or men who are between 35 and 54 years old. Clearly, the relative hourly earnings of older women and men have improved compared with those of prime-age workers. Among women, the improvement in relative wages of 62-to-74 year-olds was about 8%. In all three of the older age groups, women's hourly wages in 1985-1991 were below the average wages earned by 35-to-54 year-olds. They remained below the average hourly wage of 35-to54 year-olds in 2004-2010, but the discrepancy was significantly smaller. The improvement in older men's relative earnings compared with 35-to-54 year-old men was even more impressive (lower panel of Figure 6). In all three of the older age groups, men's hourly wages in the earlier period were below the average wages earned by 35-to-54 year-old men. By 2004-2010, earnings of 62-64 year-olds were slightly higher than those of 35-to-54 year-old men, and the earnings of 65-74 year-olds were much closer to the hourly wages of 35-to-54 year-olds. The relative earnings of older men improved 8% among 62-to-64 year-olds, 21% among 65-to-69 year-olds, and 26% among men between 70 and 74. Thus, the increase in the labor supply of older workers was accompanied by an improvement rather than a decline in their relative hourly wages.[2]

3. Are workers who postpone retirement better educated than average?

One reason that the average hourly pay of older workers has improved compared with that of prime-age workers is that older workers are now relatively better educated than older workers in the past. Among male wage earners who are between 62 and 74, the proportion who have graduated from college increased about one-seventh between 1985-1991 and 2004-2010 and the fraction who failed to complete high school fell about one-fifth. The improvement in educational credentials among older female workers was slightly smaller but still impressive. The gains in college education and the drop in the proportion of older workers who are high

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[2] Between 1985 and 2010 the BLS modified the top-coding of wages in the CPS ORG files, and the revised top-coding procedures may affect the trends in mean wages displayed in Figure 6. To investigate this possibility I re-estimated the age-earnings profile using median wage earnings rather than mean earnings. The basic results do not differ from those shown in Figure 6. Notwithstanding the increase in old-age labor supply, wage earners past age 62 experienced a relative improvement in their median pay between 1985-1991 and 2004-2010.

school dropouts are relatively larger than the changes seen among prime-age workers. Thus, some of the relative wage gains of older workers are traceable to the fact that gains in schooling among prime-age workers were smaller between 1985-1991 and 2004-2010 than they were among workers who are between 62 and 74 years old. In part this reflects the very rapid gains in schooling attainment that occurred after World War II, when people who are now 62 to 74 years old were enrolled in secondary school and college. In some measure it may also reflect a growing divergence between retirement trends among older Americans with good educational credentials and those who have less schooling.

Before presenting evidence on differences in retirement patterns by educational attainment it is worth noting that the wages of older workers have improved compared with those earned by prime age workers, even accounting for the relative improvement in older workers' schooling. To show this, I separately estimated the age-earnings profiles of women and men in four educational groups—those without a high school diploma, those with a high school degree but no schooling after high school, those with some college education who have not obtained a four-year degree, and those who have completed at least four years of college. (The last group also includes college graduates who have obtained a post-college degree.) With only a handful of exceptions, these tabulations show that older wage earners *within* each educational group have seen relative improvements in their wages compared with younger workers. The only notable exceptions to this pattern are college graduates between 62 and 64 years old, who saw a modest decline in their wages compared with younger college graduates. Among college graduates 65 and older, there were noticeable improvements in the relative wages of older workers compared with prime-age workers. On balance, this analysis suggests that older workers in every educational category have enjoyed relative wage gains compared with their younger educational peers, in spite of the fact that a greater percentage of older workers is staying in the workforce until later in life.

In general, workers who are better educated tend to remain in the workforce longer than workers in the same birth cohorts who have less schooling. This was true in the early period—1985-1991—as well as in the most recent period—2004-2010. However, the labor participation gap between less educated and more educated older Americans has widened over the past two decades. In 1985-1991, for example, 65-69 year-old married men with a college degree had a 15-percentage-point edge in workforce participation compared with married men the same age

who had only a high school diploma. In the same period, 65-69 year-old married men who failed to complete high school had a 5-percentage-point shortfall in participation compared with married high school graduates in their age group. Among older married women, the educational gradient of labor force participation was similar to that among older married men, though the observed differences between educational groups were a bit smaller.

The increasing educational attainment of older Americans should therefore be expected to boost participation rates among 62-74 year-olds, even if there were no trend toward later retirement among Americans holding constant their educational attainment. Statistical analysis shows, however, that labor force participation rose within the great majority of marital status / education groups in the older population. Thus, participation increased in older age groups *both* because the older population became relatively more educated *and* because older Americans with the same schooling levels tended to postpone their age of exit from the workforce.

Table 2 shows changes in labor force participation rates between 1985-1991 and 2004-2010 within demographic cells defined by older Americans' gender, marital status, educational attainment, and age group. The results were obtained from separate regressions for women and men using the monthly CPS files for 1985-1991 and 2004-2010.   The regression specification for each gender includes the main effects of principal demographic factors—exact year of age, race, educational attainment group, and marital status—as well as seasonal adjustment factors and the seasonally adjusted monthly unemployment rate of adults between 25 and 54. The coefficients are estimated using the linear probability model and reflect the effects of educational attainment and marital status on the average *change* in participation rates between 1985-1991 and 2004-2010. With few exceptions the statistically significant coefficients are positive, indicating that labor force participation rose within most of the marital status / educational attainment groups. Note that all of the coefficients for the largest marital status group—married people who live with a spouse—are positive and statistically significant. Among women the percentage-point increases in participation rates are typically larger among those with higher educational attainment. It is much harder to see this pattern among men. Only in the oldest age group, 70-74 year-olds, is there be a tendency for better educated males to see a bigger jump in participation rates.

The coefficient estimates in Table 2 can be combined with estimates of population change and the main effects of marital status and educational attainment to decompose the total

change in participation rates between the portion due to changing population composition and the part due to higher participation rates within marital status / educational attainment groups. There are two ways to perform the decomposition, but both yield very similar results. For men between 62 and 64 slightly more than half the increase in participation between 1985-1991 and 2004-2010 was due to shifts in the composition of the 62-to-64 year-old population. More of the male population is in well-educated groups that had relatively high participation rates in 1985-1991; less of it is in groups with less education and lower expected participation rates. On the other hand, about 45% of the jump in the 62-64 year-old male participation rate was due to increasing participation rates *within* many sub-groups in this population. In the two older male populations, only about one-third of the jump in overall participation was due to shifts in population composition. The remaining two-thirds of the increase was due to the rise in participation rates within many sub-populations in the age group (see Table 2).

Among women the change in overall participation rates was mainly due to increases in participation rates within subpopulations. Comparatively less was due to shifts in the composition of the older female population toward subgroups with high participation rates. Among women between 62 and 64, just one-third of the rise in participation can be traced to compositional shifts in the 62-64 year-old population. The remaining two-thirds was due to increases in participation rates in a number of subgroups, especially subpopulations with more-than-average schooling. In the two older women's groups the balance of effects is even more one-sided. Between 80% and 85% of the jump in participation was due to increases in participation within subgroups. Only 15% to 20% of the rise was caused by shifts in the composition of the older female population toward groups that initially had above-average participation rates.

In sum, workers who have above-average education tend to retire later than workers with less education. As the educational attainment of the aged has risen, the expected labor force participation rates of the aged have also increased. Among women we have also seen a stronger tendency toward delayed retirement among women who have higher levels of schooling. This tendency seems much weaker among men, where increases in labor force participation over the past two decades have been more similar across educational groups. Nonetheless, the increased level of schooling among older men has tended to boost participation rates and the relative earnings of aged workers compared with the prime-age workforce.

4. How is the delay in retirement divided between part-time and full-time work?

Many older workers are employed in jobs with less than full-time work schedules. Most Americans past age 62 qualify for Social Security retired worker benefits, so it is less necessary for them to work long hours or on a full-time schedule in order to obtain an adequate income. The top panel in Figure 7 shows the proportion of employed men and women who worked on part-time schedules between 1985 and 1991, years when the trend toward early retirement reached its peak. It is plain that part-time work is more common among women than among men and far more common as workers of either sex grow older. The fraction of working men on part-time schedules increases by a factor of six between ages 55-59 and 65-69.

Did the trend toward later retirement increase the percentage of older workers who are employed part-time? A comparison of the top and bottom panels of Figure 7 sheds some light on this question. In the two oldest age groups, 65-69 and 70-74, the proportion of workers on part-time schedules edged down. In the other three age groups, the percentage of workers with part-time schedules increased, though the change among workers between 62 and 64 was not large. Thus, for most of the older age groups that experienced an increase in labor force participation rates, the rise in employment left the proportion of part-time and full-time workers roughly unchanged.

Another perspective on the issue is provided in Table 1, which shows the change in the fractions of the population in older age groups that are employed in full-time and part-time jobs. Note that the sum of the changes in full-time and part-time employment is equal to the total increase in the employment-population ratio for an age group. The results in Table 1 show that both full-time and part-time employment rates increased between 1985-1991 and 2004-2012. This is true for both sexes and for every age group between 62 and 74. Contrary to a widespread impression, then, the delay in retirement has involved an increase in the proportion of older people who work on both full-time and part-time schedules. At ages past 65, the increase in full-time work has been proportionately somewhat greater than the increase in part-time employment.

5. Is later retirement caused by a rise in "bridge jobs" or by lengthening career jobs?

Workers do not need to cut their weekly hours in order to reduce the demands of employment. They may also choose to work in jobs that are less stressful or that require less effort than the jobs they held during most of their careers. Such jobs are often referred to as

"bridge jobs," signaling the fact that they represent a bridge between full-time work in a career job and full retirement (Ruhm 1990; Cahill, Giandrea, and Quinn 2006). Of course, some bridge jobs may be part-time, but others may simply be less demanding or stressful than the worker's career job. In this section I examine evidence on older workers' retention of jobs they held well before the typical retirement age. Very few if these jobs can be classified as bridge jobs.

The BLS has obtained consistent survey information about workers' job tenure in interview supplements to the standard CPS questionnaire (Table 3). Over the years, male job tenures have fallen at most ages while the median tenure of women workers has risen modestly except in the oldest age category, where it has also declined. Given the trend in women's job market experience, it is not surprising that men's and women's job tenure patterns look more similar in recent years than was the case two decades ago. Women are now more likely to remain steadily in the work force than was the case before the mid-1980s. What is surprising is that male and female tenure patterns have converged mainly because average male tenure has declined rather than because female tenure has increased. Between 1987 and 2006 the median tenure of wage-earning men between the ages of 45 and 54 fell 3.7 years (31%), and the median tenure of men between the ages of 55-64 fell 5.0 years (34 percent). Workers' average tenure in jobs depends on their willingness to remain in the job as well as employers' job separation policies. If workers' desire to hold on to jobs has remained roughly unchanged, the fall in average job tenure reflects an increased willingness or need on the part of employers to discharge their workers before they accumulate long tenure on the job. The evidence in Table 3 is consistent with the view that permanent job separation is now more common for long-tenure workers than it was before the 1987 tenure survey.

The crucial issue when considering job retention among older workers, however, is not the trend in median tenures of middle-age and older workers but changes in job retention rates among older workers who already have lengthy tenures in their current jobs. For a 60-year old worker who still holds a career job, what is the likelihood he or she will still hold the same job 3 or 5 years later? If the probability of job retention falls this may either mean the worker has retired or has switched to another job (possibly a bridge job). If the probability of job retention increases there is a clear implication that at least part of the rise in old-age employment rates is traceable to an increase in the duration of career jobs.

To shed light on the issue I assembled individual-level data on job tenure for aged and near-aged workers collected in special supplements to the monthly CPS files covering the periods from 1987-1991 and 2004-2010. The BLS collected the data in surveys conducted in 1987, 1991, 2004, 2006, 2008, and 2010. Wage and salary and self-employed workers were asked how long they had continuously worked for their current employers. The CPS job-tenure responses were not obtained in a longitudinal survey. In order to draw conclusions about job retention within a given birth cohort it is necessary to treat the data with methods appropriate to repeated cross sections. For this purpose I derived information about the distribution of job tenures among two age groups in the 1987, 2004, and 2006 surveys—workers age 58 to 63 and workers age 64 to 69 at the time of the survey. I then derived data on workers in the same birth cohorts from surveys conducted four years after those three surveys, that is, in 1991, 2008, and 2010. In other words, I compiled job tenure distribution data for workers who were 62 to 67 years old or 68 to 73 years old in the 1991, 2008, and 2010 surveys.

The results of the tabulations are displayed in Table 4. Statistics in the top panel show tenure distributions among women; statistics in the bottom panel refer to men. The three columns on the left pertain to the younger birth cohorts (workers who were 58 to 63 in the first interview), while the three right-hand columns contain information on tenures and job retention in the older birth cohorts (workers who were between 64 and 69 at the time of the initial interview). Entries in the table show the sample sizes of CPS respondents in the indicated age and gender groups and CPS surveys. Note that the number of respondents declines in the second survey. The loss in sample size is hardly surprising, since mortality will reduce the number of surviving respondents in an aged population. I also show the weighted percentage of respondents who report their job tenure in each survey. People who are not employed cannot report a job tenure, and some job holders did not give valid responses to the tenure question. Except among men aged 58 to 63, the job tenure question was answered by a larger proportion of the population in the most recent surveys compared to the ones conducted in 1987 and 1991. This seems plausible since, as we have seen, labor force participation and employment in older age groups has increased since 1987-1991.

Other entries in Table 4 show the weighted total number of aged workers with job tenures longer than 10 or 20 years (in the case of the initial interview) or longer than 14 or 24 years (in the case of the second interview). Since the first and second interviews were conducted four

years apart, we can draw inferences about the proportion of job holders in the first interview who retain the same jobs in the second. For example, the 1987 CPS interview showed there were 1.321 million women between 58 and 63 who had worked continuously for the same employer for at least 10 years. The 1991 CPS interview showed there were 0.544 million women between 62 and 67 who had worked continuously for the same employer for at least 14 years.   From this we can infer that 41.2% (0.544 million / 1.321 million) of women who were between 58 and 63 and had ten years of job tenure in 1987 continued to work for the same employer four years later. Among women in the same age group in 1987 who had at least 20 years of job tenure in that year, 42.2% continued to work for the same employer four years later (that is, they had accumulated at least 24 years of job tenure by 1991).

The interesting result in Table 4 is that job retention rates were higher between 2004 and 2010 compared with 1987-1991.   For example, among men between 58 and 63 with at least 10 years of job tenure in 1987, about 39% were still working for the same employer in 1991. Among men between 58 and 63 with at least 10 years of job tenure in either 2004 or 2006, about 55% still worked for the same employer four years later. The 16-percentage-point increase in the job retention rate implies that lengthening job tenures in late-career jobs played at least some role in boosting the labor force participation and employment rates of older men. The same pattern is reflected in the job retention statistics for men between 64 and 69 and for women between ages 58 and 63 and 64 and 69. As labor force participation rates have increased we have seen higher job retention rates among older workers who hold long-tenure jobs. This finding does not rule out the possibility that many older workers have moved into less stressful bridge jobs. On the contrary, the statistics on part-time employment in Table 1 and Figure 7 show that older workers continue to move toward shorter work schedules as they grow older. Nonetheless, the estimates in Table 4 indicate that at least part of the increase in old-age labor supply can be traced to workers' willingness to stay in their career jobs until later in life.

6. Conclusions

The findings of the paper can be briefly summarized. Since the late 1980s and early 1990s there has been a sizeable rise in labor force participation and employment at older ages. This trend represents a notable turnaround of labor force trends during the previous century. Among 68-year-old men, the labor force participation rate increased by more than half between 1991 and 2010. Among 68-year-old women, the participation rate increased by about two-thirds.

The proportional increase in labor force participation and employment has been smaller among men and women near age 60 and larger among workers between 64 and 72.

Even though there has been a marked increase in the labor supply contributions of older Americans, workers in their 60s and early 70s have not seen a drop in their relative wages. On the contrary, the wages of 62-74 year-olds have improved compared with the wages earned by prime-age workers (that is, workers between 35 and 54 years old). Some of the wage gain can be explained by the relative improvement in older workers' educational credentials. Compared with aged workers in the 1980s, today's older workers have educational attainment that is more similar to that of prime-age workers. In addition, older workers have seen an improvement in their relative earnings even if we compare them with prime-age workers who have the same educational credentials. One explanation may be that the workers who are delaying retirement and remaining in the workforce have above-average earnings capacity, holding constant their educational attainment. Another is that the evolution of labor demand has boosted the payoff to labor market experience, which would confer an important advantage on workers with the most experience.

Increases in employment associated with the delay in retirement have been divided between increases in part-time employment and full-time employment. There is no evidence, especially past age 65, that the increase in employment has been disproportionately concentrated among older workers who are employed on part-time schedules. On the contrary, gains in full-time employment have been proportionately a bit faster than gains in part-time employment. It is nonetheless the case that part-time work remains much more common among older workers than it is in the prime-age workforce. The crucial point is that gains in employment linked to the delay in retirement have not been concentrated solely or even disproportionately in part-time work.

Finally, the paper has developed new evidence on the role of career jobs in the trend toward later retirement. A number of observers have noted that median job tenures among middle-aged men have declined while job tenures among working women have increased only modestly. These developments raise questions about the importance of longer career jobs in explaining the trend toward later retirement. The BLS surveys that permit us to measure the trend in median job tenures also allow us to examine job retention rates among older workers who have already accumulated long job tenures on their jobs. My estimates suggest that long-

tenure older workers have seen a noticeable increase in job retention rates over the past quarter century. This evidence suggests that a sizeable part of the trend to later retirement ages can be traced lengthening careers on the part of older workers who have held their jobs for a decade or more. The finding does not minimize the importance of part-time employment or bridge jobs in the transition from career employment to full retirement, but it does suggest that an important contributor to higher old-age employment rates is the delay in workers' retirement from career jobs.

The goal of this paper is primarily descriptive. It does not offer explanations for the trends it documents. It does, however, provide a detailed characterization of a phenomenon that has only recently begun to attract notice among nonspecialists. Policymakers and reporters may be dimly aware that the average age of retirement is rising. They may be unaware, however, that the trend has now been underway for more than two decades.   In order to develop plausible models that can account for the trend, we first need to understand its scope and character. That has been the aim of this paper.

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Figure 1. Female Labor Force Participation Rates at Selected Ages, 1965-2010
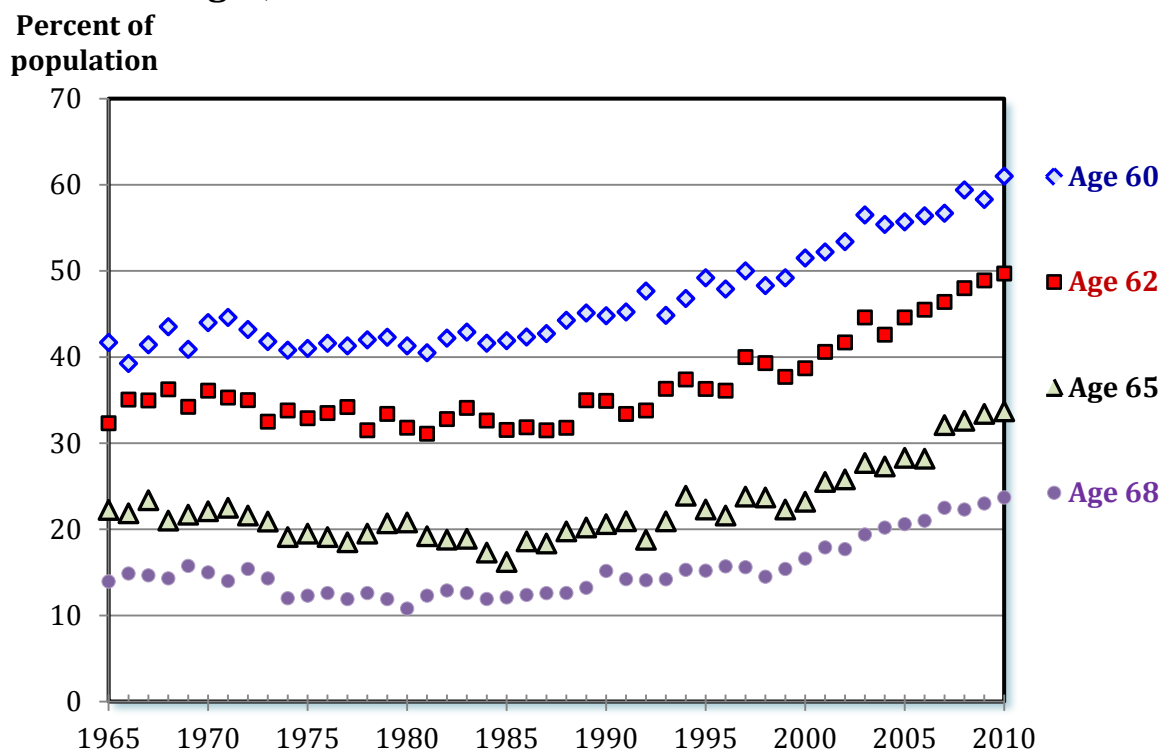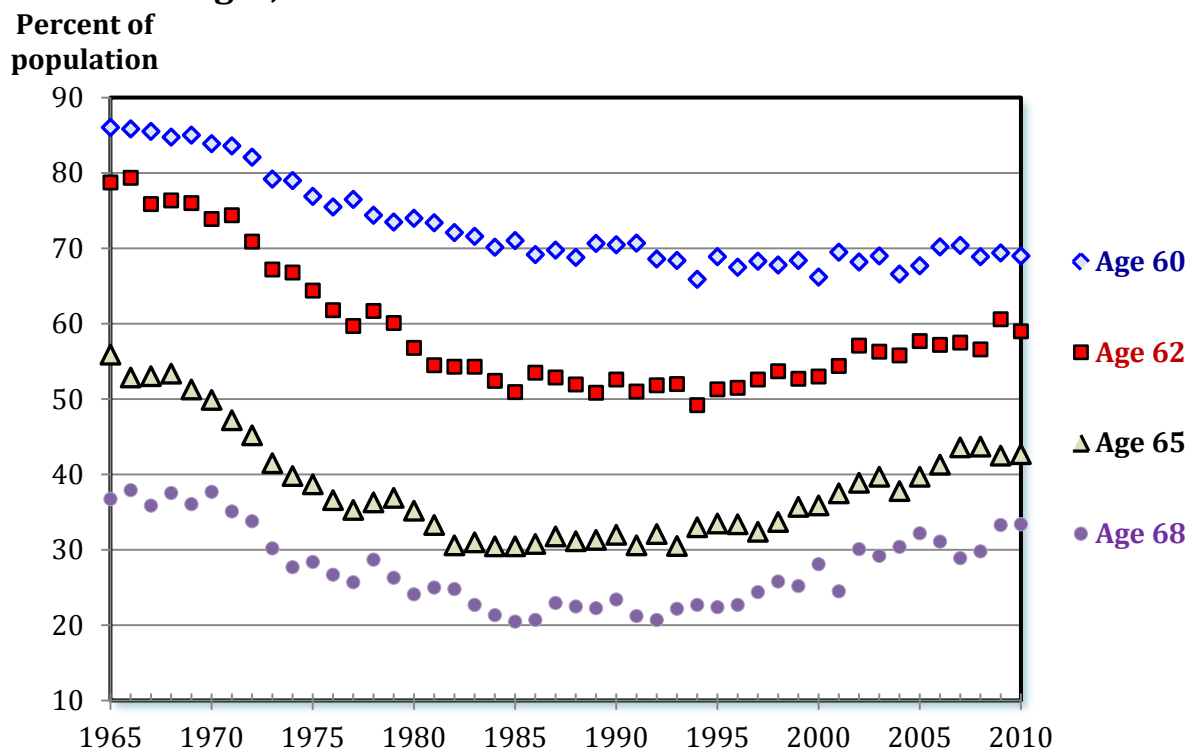
Percent of population

Figure 2. Male Labor Force Participation Rates at Selected Ages, 1965-2010

Percent of population

Source: U.S. BLS tabulations of monthly CPS files.

Figure 3. LFPR at Indicated Ages as a % of LFPR of Cohort between Ages 55-59, Selected Birth Cohorts Attaining Age 60 between 1975 and 2005: Females
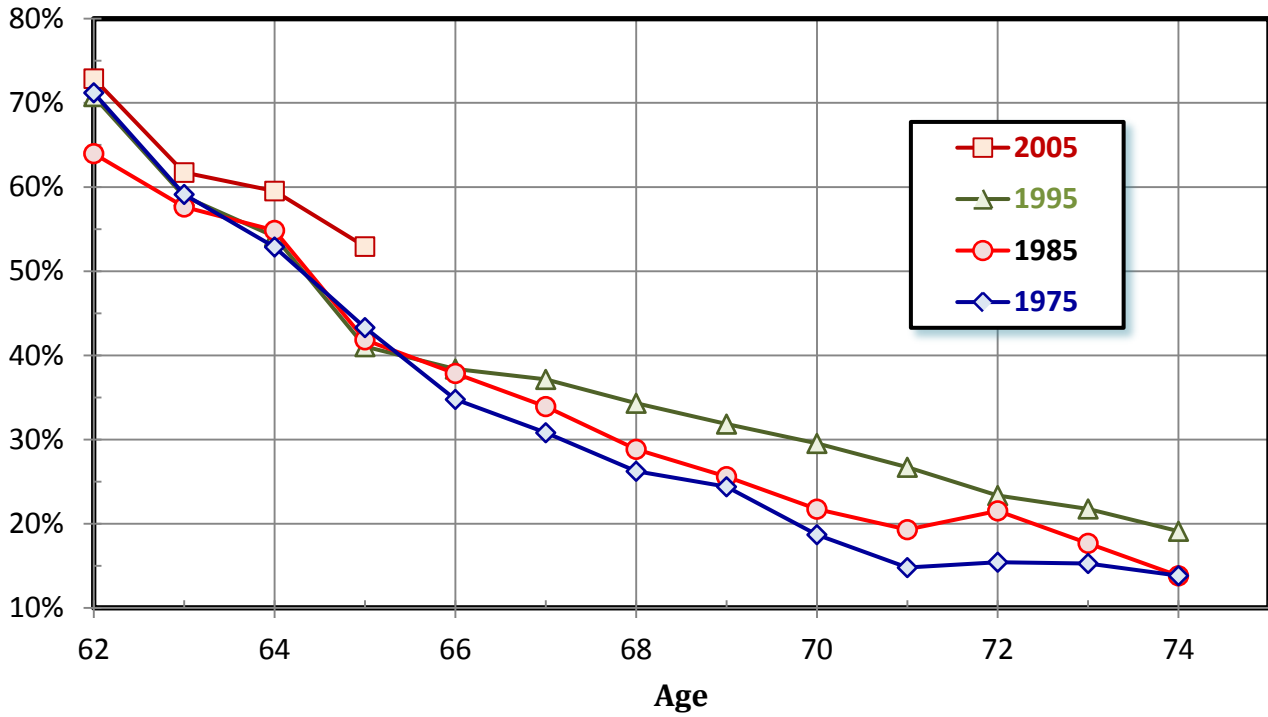

Figure 4. LFPR at Indicated Ages as a % of LFPR of Cohort between Ages 55-59, Selected Birth Cohorts Attaining Age 60 between 1975 and 2005: Males
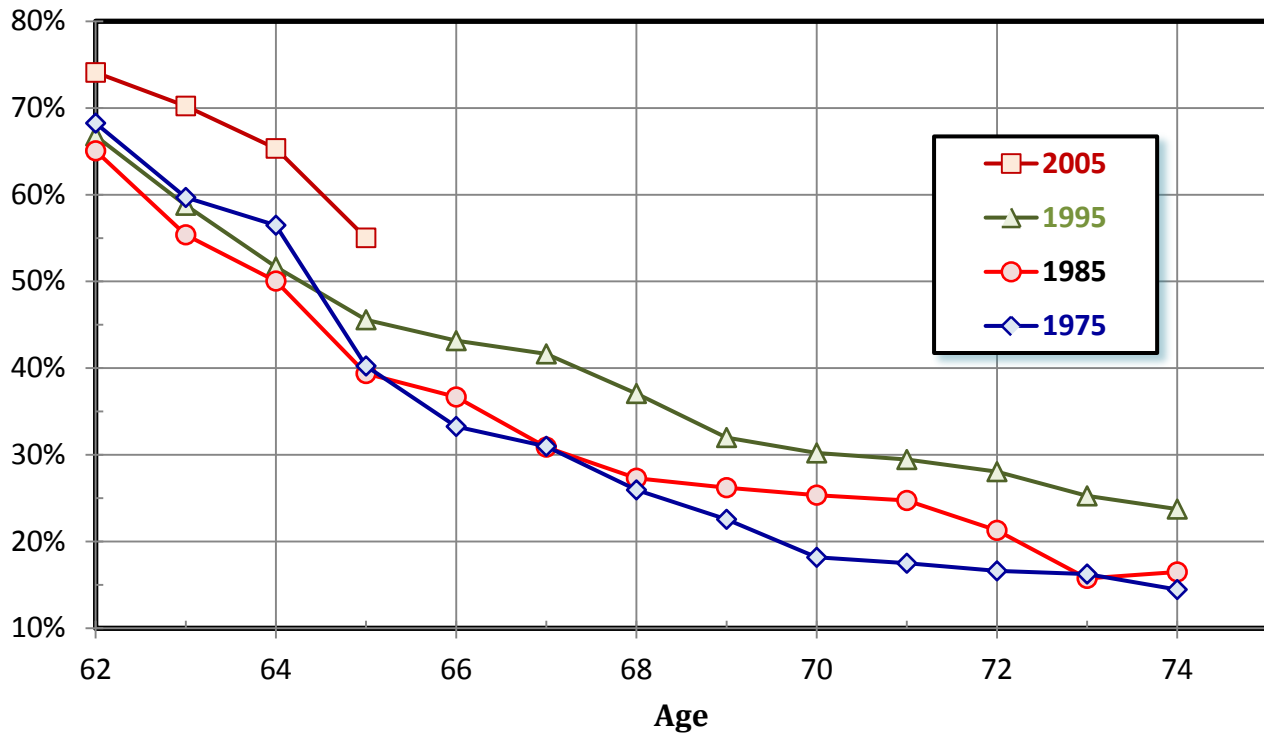
Figure 5. Increase in the LFPR at Indicated Ages as % of Cohort's LFPR at Age 57, 1988-90 to 2008-2010

Increase in LFPR at the indicated ages as % of cohort's LFPR at age 57: Women
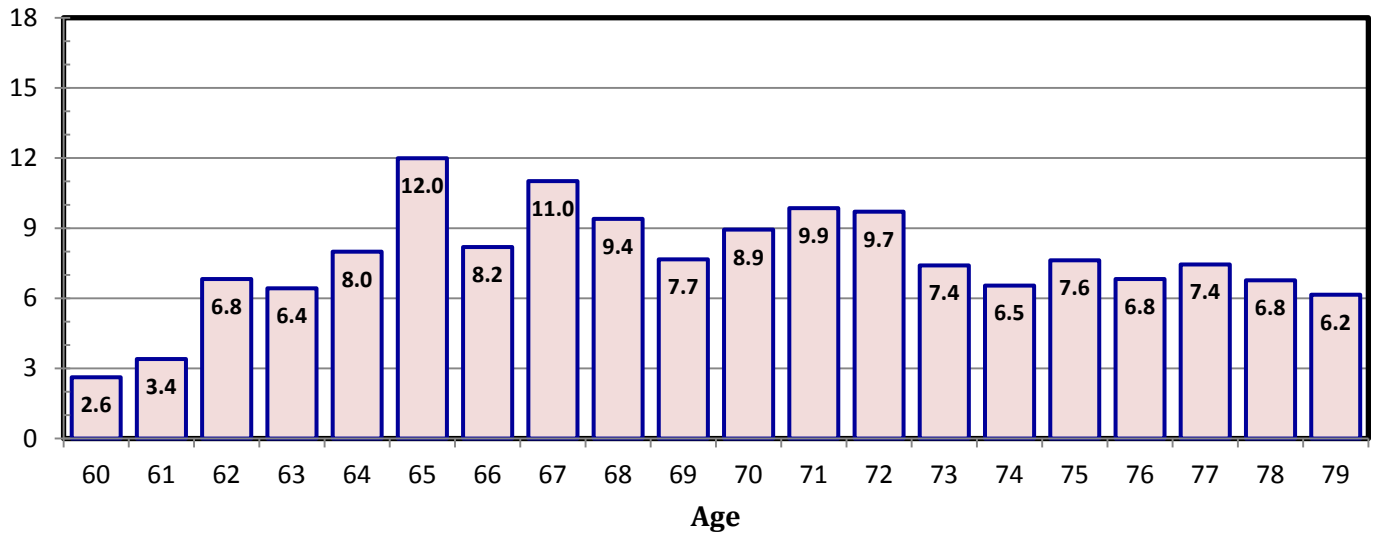
Increase in LFPR at the indicated ages as % of cohort's LFPR at age 57: Men
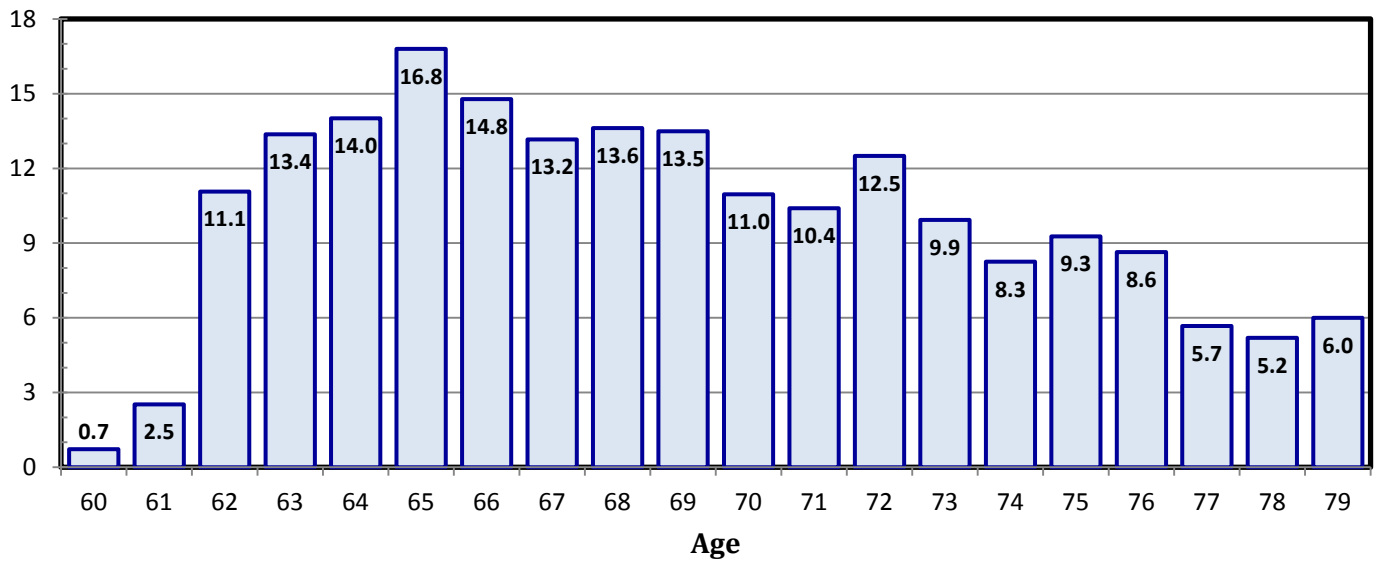
Note: A birth cohort's LFPR at age 57 is calculated as the arithmetic average of the LFPR of 55-59 year-olds in the calendar years when the cohort was 56, 57, and 58 years old.
Source: Author's calculations based on U.S. BLS tabulations of monthly CPS files, as explained in text.

Figure 6. Age Profiles of Hourly Wages, 1985-1991 and 2004-2010

Women:
Hourly wage of 35-54 year-olds = 100
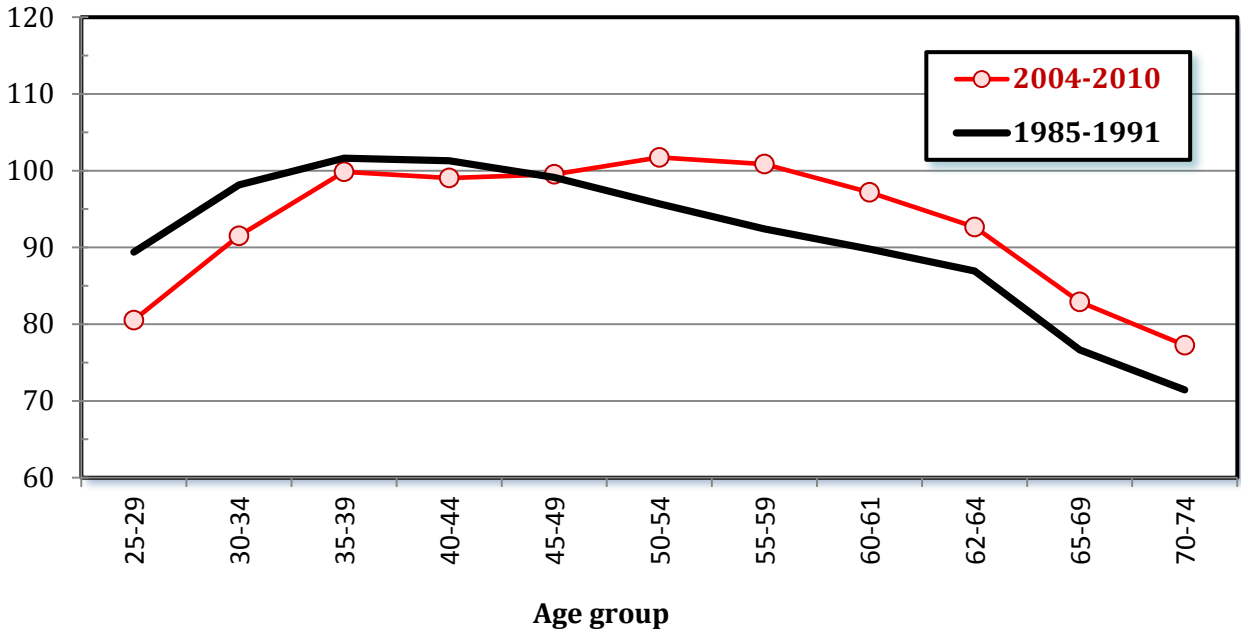
Men:
Hourly wage of 35-54 year-olds = 100
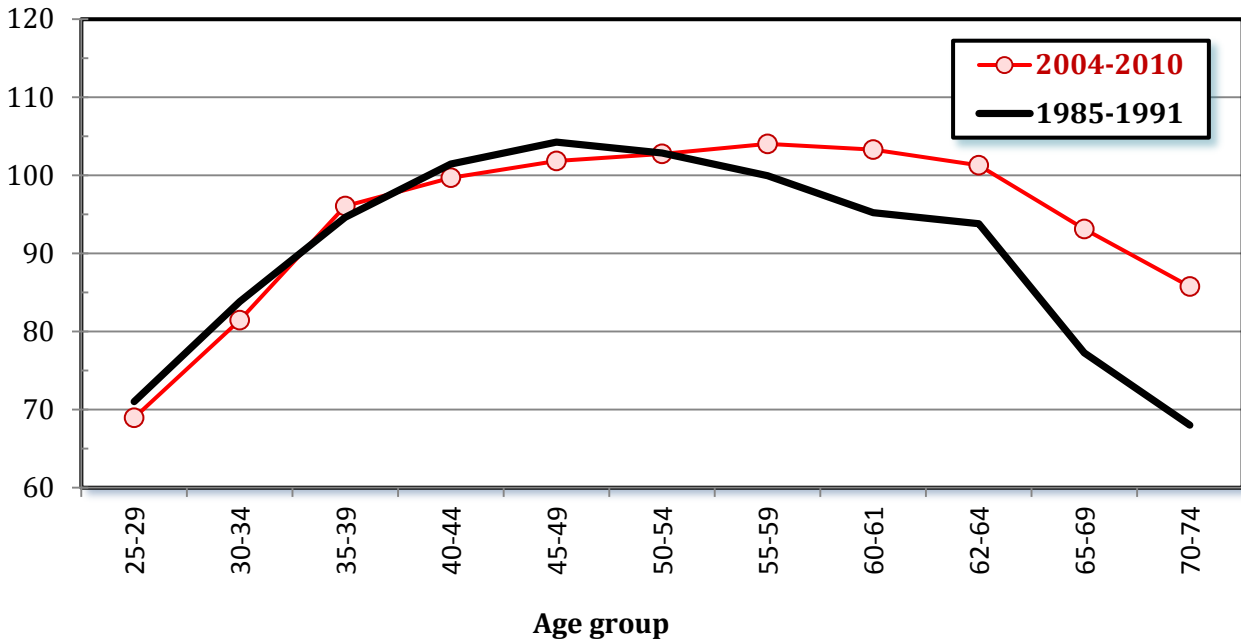
Source: Author's tabulations of monthly 1985-1991 and 2004-2010 outgoing rotation group CPS files.

Figure 7. Proportion of Workers on Part-time Schedules by Gender and Age, 1985-1991 and 2004-2010
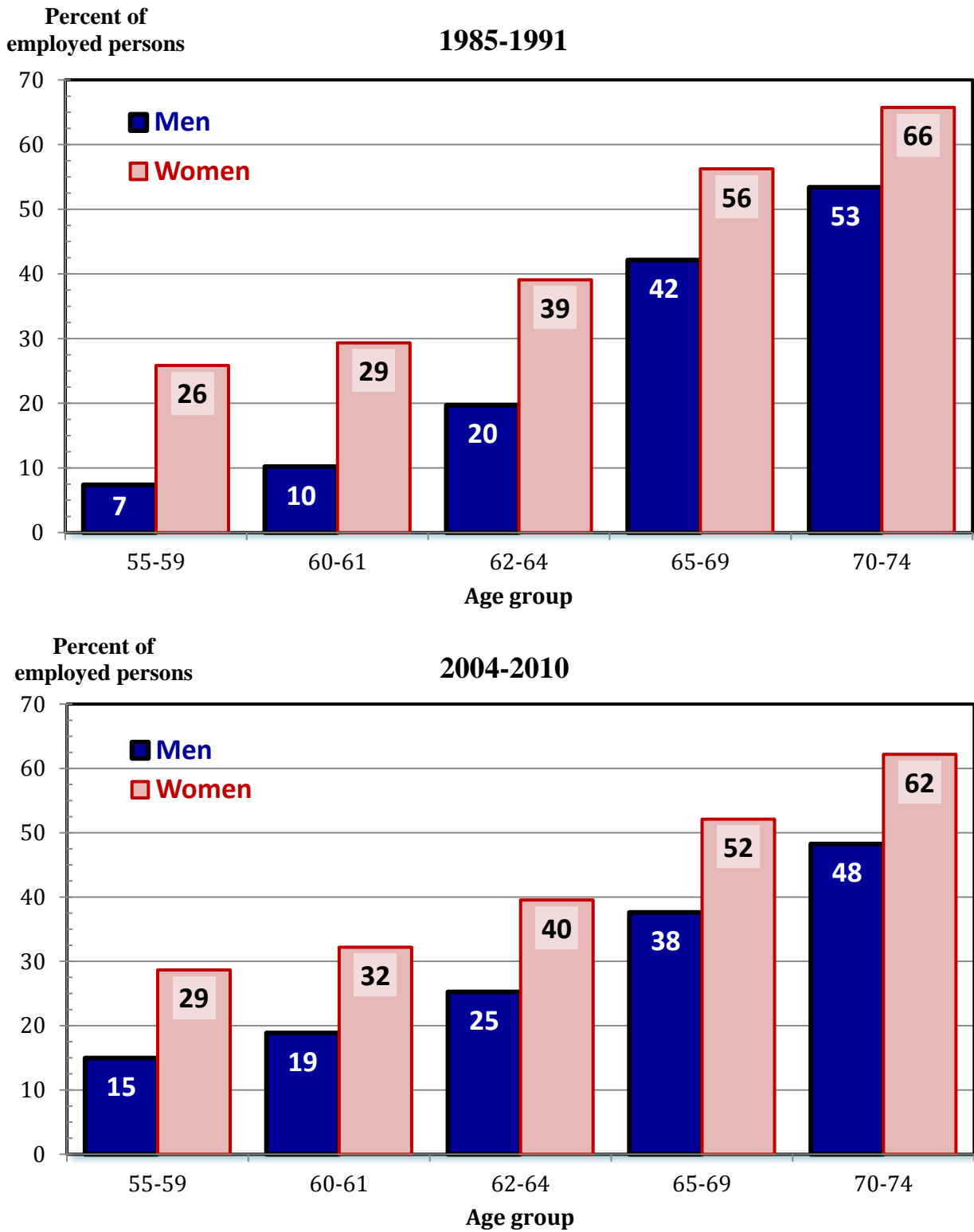
Source: Author's tabulations of monthly CPS files for 1985-1991 and 2004-2010.

Table 1. Increase in Effective Labor Supply of Older U.S. Workers, 1985-1991 and 2004-2010

Percentage points

	Age group		
	62-64	65-69	70-74
Change in women's --			
Labor force participation rate	13.2	10.1	6.4
Employment-population ratio	12.4	9.5	6.0
Percent of population at work	12.0	9.0	5.5
Percent of population in full-time employment	7.4	5.2	2.5
Percent of population in part-time employment	5.0	4.4	3.5
Change in men's --			
Labor force participation rate	7.4	9.1	6.9
Employment-population ratio	6.5	8.2	6.4
Percent of population at work	7.0	8.1	6.1
Percent of population in full-time employment	2.4	6.2	4.1
Percent of population in part-time employment	4.1	2.0	2.3

Source: Author's tabulations of monthly CPS files for 1985-1991 and 2004-2010.

Table 2. Regression Estimates of the Change in Labor Force Participation Rates between 1985-1991 and 2004-2010, by Gender, Educational Attainment, and Marital Status

Age group / Marital status	Women					Men			
	Less than high school	High school graduate	Some college	At least 4 years college		Less than high school	High school graduate	Some college	At least 4 years college
Age 62 to 64	*Age 62 to 64*								
Married - Spouse Present	4.5 ***	12.6 ***	12.0 ***	13.8 ***		4.9 ***	3.8 ***	3.2 ***	4.4 ***
(Standard error)	0.5	0.4	0.5	0.4		0.5	0.4	0.5	0.4
Married - Spouse Absent / Separated	-0.5	-4.9 **	0.5	6.8 ***		4.3 **	-0.6	-2.9	-0.9
(Standard error)	1.7	2.3	3.4	2.5		1.7	2.3	3.4	2.5
Widowed / Divorced	1.5	3.6 ***	8.1 ***	4.4 ***		-2.6 ***	-0.2	2.9 **	2.5 **
(Standard error)	0.9	0.9	1.2	1.2		0.9	0.9	1.2	1.2
Single	1.2	1.3	-2.8	1.0		-0.7	0.7	4.5 **	-4.4 ***
(Standard error)	1.4	1.5	2.1	1.6		1.4	1.5	2.1	1.6
Age 65 to 69	*Age 65 to 69*								
Married - Spouse Present	4.0 ***	8.4 ***	10.6 ***	11.4 ***		6.2 ***	5.9 ***	5.6 ***	5.1 ***
(Standard error)	0.3	0.3	0.4	0.3		0.3	0.3	0.4	0.3
Married - Spouse Absent / Separated	3.4 **	5.8 ***	9.8 ***	6.8 ***		9.0 ***	1.2	0.7	16.3 ***
(Standard error)	1.4	1.8	2.6	2.3		1.4	1.8	2.6	2.3
Widowed/ Divorced	1.6 **	8.1 ***	9.3 ***	10.9 ***		3.3 ***	5.3 ***	5.6 ***	8.5 ***
(Standard error)	0.6	0.7	0.9	1.0		0.6	0.7	0.9	1.0
Single	-0.1	8.2 ***	7.0 ***	9.4 ***		1.4	8.5 ***	10.8 ***	2.2
(Standard error)	1.1	1.2	1.9	1.4		1.1	1.2	1.9	1.4
Age 70 to 74	*Age 70 to 74*								
Married - Spouse Present	4.5 ***	6.2 ***	5.6 ***	8.9 ***		3.3 ***	5.7 ***	3.9 ***	6.3 ***
(Standard error)	0.3	0.3	0.4	0.4		0.3	0.3	0.4	0.4
Married - Spouse Absent / Separated	0.5	8.2 ***	-8.6 ***	9.3 ***		4.0 ***	0.2	-9.3 ***	-6.7 **
(Standard error)	1.3	1.9	2.5	2.6		1.3	1.9	2.5	2.6
Widowed/ Divorced	1.5 ***	5.9 ***	5.5 ***	7.4 ***		3.3 ***	3.4 ***	3.1 ***	5.1 ***
(Standard error)	0.5	0.6	0.9	0.9		0.5	0.6	0.9	0.9
Single	2.7 **	7.0 ***	10.3 ***	1.3		5.4 ***	5.7 ***	-0.7	-7.6 ***
(Standard error)	1.1	1.2	2.0	1.6		1.1	1.2	2.0	1.6

Notes: In addition to the variables shown, the regression equation includes controls for seasonal adjustment, the prime-age unemployment rate, and respondents' race and exact reported year of age. Asterisks denote statistical significance: * = significant at 10% level; ** = significant at 5% level; and *** = significant at 1% level using two-tailed test.

Source: Author's estimates with monthly CPS files for 1985-1991 and 2004-2010 as explained in text.

Table 3. Median Years of Tenure with Current Employer for Employed Wage and Salary Workers by Age and Sex, Selected Years, 1987-2006

Age and sex	January 1987	January 1991	February 1996	February 2000	January 2006
Both sexes					
16 years and over	3.4	3.6	3.8	3.5	4.0
25 years and over	5.0	4.8	5.0	4.7	4.9
Men					
16 years and over	4.0	4.1	4.0	3.8	4.1
25 years and over	5.7	5.4	5.3	4.9	5.0
25 to 34 years	3.1	3.1	3.0	2.7	2.9
35 to 44 years	7.0	6.5	6.1	5.3	5.1
45 to 54 years	11.8	11.2	10.1	9.5	8.1
55 to 64 years	14.5	13.4	10.5	10.2	9.5
Women					
16 years and over	3.0	3.2	3.5	3.3	3.9
25 years and over	4.3	4.3	4.7	4.4	4.8
25 to 34 years	2.6	2.7	2.7	2.5	2.8
35 to 44 years	4.4	4.5	4.8	4.3	4.6
45 to 54 years	6.8	6.7	7.0	7.3	6.7
55 to 64 years	9.7	9.9	10.0	9.9	9.2

Sources: U.S. BLS (1997), "Employee Tenure in the Mid-1990s," New release USDL 97-25; and BLS (2006), "Employee Tenure in 2006" News release USDL 06-1563.

Table 4. Estimated Job Retention among Older Workers, 1987-1991 and 2004-2010

	Age in initial survey year = 58 to 63				Age in initial survey year = 64 to 69		
	1987 and 1991	2004 and 2008	2006 and 2010		1987 and 1991	2004 and 2008	2006 and 2010
Women	*Women*						
CPS sample size - Initial survey year	4,328	4,060	4,423		4,013	3,196	3,279
Percent of population with reported job tenure (%)	*35.7*	*45.1*	*46.3*		*14.4*	*21.3*	*21.3*
No. of persons with tenure at least 10 years (thous.)	1,321	1,932	2,137		487	740	730
No. of persons with tenure at least 20 years (thous.)	552	879	1,063		256	374	373
CPS sample size - Second survey year	4,096	3,770	4,143		3,660	2,889	3,060
Percent of population with reported job tenure	*20.1*	*29.8*	*30.8*		*8.8*	*13.0*	*14.1*
No. of persons with tenure at least 14 years (thous.)	544	1,022	1,051		192	325	441
No. of persons with tenure at least 24 years (thous.)	233	504	502		91	165	195
Job retention rate after 4 years							
Among workers with initial tenure of at least 10 years (%)	*41.2*	*52.9*	*49.2*		*39.5*	*43.8*	*60.4*
Among workers with initial tenure of at least 20 years (%)	*42.2*	*57.3*	*47.2*		*35.7*	*44.1*	*52.3*
Men	*Men*						
Sample size - Initial survey year	3,792	3,729	4,189		3,308	2,913	2,947
Percent of population with reported job tenure (%)	*59.2*	*54.5*	*56.6*		*25.0*	*28.9*	*29.1*
No. of persons with tenure at least 10 years (thous.)	2,300	2,230	2,723		789	904	911
No. of persons with tenure at least 20 years (thous.)	1,553	1,382	1,635		567	579	606
Sample size - Second survey year	3,502	3,454	3,834		2,782	2,427	2,526
Percent of population with reported job tenure	*30.2*	*38.0*	*38.4*		*14.6*	*21.3*	*21.3*
No. of persons with tenure at least 14 years (thous.)	904	1,254	1,460		313	548	570
No. of persons with tenure at least 24 years (thous.)	554	736	850		231	330	391
Job retention rate after 4 years							
Among workers with initial tenure of at least 10 years (%)	*39.3*	*56.2*	*53.6*		*39.6*	*60.7*	*62.6*
Among workers with initial tenure of at least 20 years (%)	*35.7*	*53.3*	*52.0*		*40.7*	*56.9*	*64.5*

Source: Author's tabulations of CPS special supplements on worker tenure, 1985, 1991, 2004, 2006, 2008, and 2010, as explained in text.