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ABSTRACT

Globalization processes, population aging, and changing family structures are motivating the reorganization of retirement institutions and changes in the work careers and retirement schedules of older workers in the U.S. These changes have reconfigured the retirement transition in the U.S. from a relatively standardized and absorbing age-related transition to more heterogeneous patterns of intermittent work; early, partial and gradual retirements that mix part-time and full-time employment accompanied by pension incomes; and what has come to be referred to as “unretirement”, or the return to work after a period of retirement on a pension or pensions well into the post-retirement years. A liberal welfare model emphasizing private voluntary pension and health insurance provision has contributed to these trends.

We use the premier U.S. longitudinal dataset for studying these processes, the National Institutes of Health-sponsored Health and Retirement Study (HRS) initiated in 1992, which is linked to restricted Social Security earnings records data that extend back to 1980 and afford the opportunity to observe retirement, employment, unemployment, and reemployment histories between 1980 and 2006 and to estimate retirement income trajectories. Transition rate models measuring the timing of unemployment, re-employment, retirement, and un-retirement reveal growing diversity and flexibility in the late work careers of succeeding cohorts. Competing risk transition rate models reveal the impacts of cohort, human capital and private pension access on earnings mobility patterns. And hierarchical linear models estimate the importance of these same factors for changing retirement income and assets over time.

INTRODUCTION

Population aging, the growing insecurity of labor markets stemming from global economic restructuring and the ascendance of equity and credit markets, and changing family structures are motivating the reorganization of retirement institutions and changes in the work careers and retirement schedules of older workers in the U.S. These changes have reconfigured the retirement transition in the U.S. into a shift away from a standardized and absorbing age-related transition from employment income to transfer and asset incomes for most of the population and towards more heterogeneous patterns of intermittent work, partial and gradual retirements that mix part-time and full-time employment accompanied by pension incomes, and what has come to be referred to as “unretirement” (Maestas, 2005), or the return to work after a period of retirement on a pension or pensions well into the post-retirement years.

This chapter will identify diverse patterns of retirement that have developed over the past three decades in the U.S. and estimate the net effects of demographic, structural (occupational/sectoral), and macroeconomic factors (unemployment cycles and trends in income inequality) on the relative risks for following different patterns and, subsequently, on the impact of these processes on upward and downward income mobility in aging cohorts since 1990. We will use the premier U.S. longitudinal dataset for studying these processes, the National Institutes of Health-sponsored Health and Retirement Study (HRS) initiated in 1992, which will be linked to restricted Social Security earnings records data that extend back to 1980 and afford the opportunity to observe work histories between 1980 and 2006 and to estimate retirement income trajectories.

INSTITUTIONAL CONTEXT

The U.S. Retirement Context: A Liberal Model with Growing Uncertainty for Workers

The United States retirement system conforms with the World Bank’s three pillar model of pension systems to “avert the old age crisis” (World Bank 1994; 2005). The first consists of a PAYGO-financed system of minimal public sector defined benefit pensions covered by the Social Security Act. The second consists of earnings-related or occupational pensions that can have public (government subsidized) and/or private financing arrangements. The third consists of private individual savings and asset accumulation through property, equity or bond ownership. Compared to nearly all other advanced nations, with the exceptions of some other Anglo countries, the U.S. distinctively emphasizes second and third-pillar strategies for retirement saving offering a minimal public pension and recently considered shifting some portion of the public pension to individual investment and saving.

Social Security in the first pillar. The role of the state is structured principally by the Social Security Act of 1935 (and its subsequent amendments) that distributes earnings-related retirement, disability and derived dependent/survivor benefits and means-tested supplemental security benefits to the indigent. Other laws related to age and disability discrimination can intervene in market processes, but primarily via adversarial judicial processes. In addition, the Medicare/Medicaid system, initiated in 1965, serves to provide minimal health benefits to retirees and the indigent. Nearly all workers (and their families) in pre-retirement ages have no health coverage unless it is employer-provided or individually-subscribed; in all cases workers must pay premiums for this coverage and cover part of their actual medical costs in addition as matching co-pays for health services, medications and related costs.

The Social Security System has had substantial impact on the scheduling of retirement in the U.S. Beginning in the early 1960s as World War I cohorts began to retire, the normal age of retirement shifted

to age 65 with eligibility for benefits. However, over the next three decades the normal retirement age shifted to ages 61-62 as early (but reduced) benefits adjusted for inflation were made more widely available to older workers and their dependents as a result of extensions of the Social Security Act to larger segments of the older population. Though hardly reaching the levels of early retirement observable in European populations, more and more workers began to voluntarily and permanently exit the labor force prior to or upon eligibility for age 62 benefits.

Two related trends accelerated this process.. The first was the beginning of economic restructuring in the U.S. during the 1970's when manufacturing sectors (especially related to the vast automobile industry) began to contract and early retirement incentives from employer pensions were accompanied by plant closings and workforce downsizing (Levy, 1998). The second was the aging of cohorts of post-World War II workers who had benefited by post-war prosperity and the management-union accords that negotiated workplace benefits that extended into retirement. This coincidence produced what some have dubbed a golden age of retirement in the U.S. (for the most privileged workers) that stalled and then reversed in the 1990's (Burtless and Quinn, 2002). Here golden age refers to the opportunity structure for older workers to retire to secure public Social Security benefits and Medicare plus generous private pension benefits and (often) retiree health insurance.

The coincidence of Social Security policy, and these two other trends produced three streams of retirees between the 1960's and the 1990's. The first included workers privileged by coverage from employer-provided pension plans that guaranteed defined benefits for the rest of their lives based on years of service and achieved salary/wage levels by the end of service. These defined benefit (DB) plans were backloaded benefits that operated to retain workers over their careers and then reward them generously at the end to retire in a short window of opportunity (dubbed carrot and stick incentives by economists). DB plans were available to less than half of the labor force, primarily to men in unionized or professional/managerial sectors, and until legislation in the 1970's and 1980's were not automatically transferable to surviving spouses leaving widows often vulnerable to poverty and dislocation. These plans encouraged early retirement.

The second stream included low-wage workers usually outside of the private occupational pension sector and with less stable work careers who found the replacement rate of the Social Security benefit attractive. The redistributive component of Social Security permitted the lowest paid workers to receive benefits that encouraged a labor exit, usually from hazardous or otherwise unfavorable working conditions and often with pre-existing health conditions that limited the capacity to work longer.

The third stream consisted of highly educated professional and managerial workers and the self-employed whose identities and fortunes were strongly attached to their careers or businesses and thus were discouraged from early retirement. This stream was less influenced by pecuniary factors associated with work and retirement and more involved with nonpecuniary elements of their work careers, such as creativity, entrepreneurship, and family legacy.

These three streams represented the principle heterogeneity of retirement scheduling in the U.S. for three decades. However, this heterogeneity has increased since the mid-1990's as a result of continuing economic structuring that has exposed workers across more sectors to market fluctuations resulting in increased risks of unemployment. In addition, the shift since 1980 towards new occupational pensions that require workers to assume greater financial risks in retirement accounts that do not assure lifetime benefits has introduced increased heterogeneity in the temporal organization of retirement timing.

Concerns regarding the future of Social Security emerged in the early 1980's as the prospective retirement of the Baby Boom cohorts born between 1946 and 1964 began to concern policymakers. The 1983 amendment to the Social Security Act created disincentives for early retirement among boomers and later cohorts by extending the ages for full benefits beyond age 65 and by reducing the age 62 early

benefits. After 2000, the earnings limit for receipt of Social Security benefits without tax penalties for those age 65 and over was lifted. Evidence of the effectiveness of these policies has already been reported. Gustman and Steinmeier (2009) show that the labor force participation of married men ages 65 to 67 between 1998 and 2004 increased between 2% and 4% depending upon age. They attribute one sixth of the increase in labor force participation of married men over this period to changes in Social Security. Other projections by the Social Security Administration of early and late Baby Boomer employment patterns forecast even higher levels of employment at later ages in the future (Butrica, Iams, and Smith, 2003/2004).

Occupational benefits in the second pillar. Occupational pensions have become pivotal factors in the flexible timing of retirement in the U.S. since the 1990’s. The U.S. conforms to a liberal welfare model (Esping-Andersen, 1999), in which market institutions have the nearly exclusive prerogative to determine employment rights, wage levels, wage maintenance protection, job security, and retirement resources. Workers’ rights in this system are represented primarily in judicial processes that pit individual workers, or occasionally unions, against employers. Hence, the second and third pillars have strongly influenced the stratification of workers’ retirement resources. Only half of all workers have historically been offered private pensions in the workplace on an annual basis (Buessing and Soto, 2006). And, among the major transformations in worker protections since 1980 has been directly related to structural changes in the provision of pensions and health insurance for workers—changes that are directly affecting older workers’ careers and retirement patterns (O’Rand, Ebel and Isaacs, 2009).

Since 1981, private employers have increasingly withdrawn from pension and health insurance coverage offers altogether or else shifted to more private and individualized forms of pensions and health insurance. Medicare/Medicaid programs primarily cover the oldest members of the population. While only half of workers have ever been covered by occupational pensions in the private sector, only 7 to 8 out of every 10 workers have been covered by public or private health insurance at any one time (Institute of Medicine, 2003).

Private pensions expanded rapidly until 1970 after which several structural and institutional changes began to make pensions a growing burden for employers (Hinz 2000; Munnell and Sundén, 2004; Madrian, Mitchell and Soldo, 2007). Voluntary and individualized pension plans are displacing responsibility for pension saving from employers and unions and to individual workers and their families. Occupational pensions in the U.S. fall into three categories: defined contribution, defined benefit (described earlier) and hybrid plans (Thompson, 2006). Defined contribution (DC) plans have overtaken defined benefit (DB) plans as the major pension instrument in the U.S. DC plans take several forms. They may be deferred profit sharing plans and employee stock ownership plans (Munnell and Sundén, 2004), which proliferated in selected sectors over the 1990s but because of their vulnerability to corporate bankruptcy have been restricted since 2003 to a limited proportion of any DC plan that is based on profit sharing or stock ownership schemes (recall the Enron scandal).

The dominant form of DC plans consists of investment accounts (e.g. 401ks) to which workers contribute a percentage of their monthly or weekly earnings, which is usually matched at some level by employers. They are portable and tax sheltered until distributions begin to be withdrawn at eligible ages and can carry loan options following strict repayment schedules with penalties attached in the case of default—all characteristics that make them appealing to workers. Workers distribute their contributions across equities and bonds. Upon retirement, these account balances can be paid as lump sums and rolled over into other retirement instruments or distributed following variable or fixed (or mixed) annuity arrangements.

DC plans are replacing the traditional defined benefit (DB) plans, which paid out lifetime annuities based on formulae that calculated years of service and pre-retirement salary or wage. Approximately sixty

percent of households covered by an occupational pension today have only defined contribution plans, while only twenty percent have only a defined benefit plan and twenty-five percent have both. Eighty percent of all pension contributions go to DC plans; and nearly three-quarters of participants in workplace pensions have DC plans, among the most popular being the 401k plan (Munnell and Sundén 2004). These plans fall into a “two-tier pension system” with higher paid employees benefiting from DB and DC plans and rank and file workers limited to DC plans (Munnell and Sundén 2004). Hybrid plans provide options that approximate either cash balance accounts similar to DC plans or target benefits that are calculated to generate predictable returns in the same manner as DB plans. Legislation since 2003 has imposed limitations on cash balance plans and halted their expansion because many older workers were being shifted out of DB plans to new DC plans that imposed serious reductions in their retirement resources (Buessing and Soto, 2006).

The financial risks to which DC plan participants are exposed are large. Workers with equivalent work, wage, and investment histories can face quite disparate financial environments (stock market return, bond interest rates, and inflation levels) over time, which have major implications for their portfolios. Studies of these risks have determined that depending upon the financial environment immediately prior to a planned retirement, the income stream in retirement can vary considerable in its ratio to preretirement income (Burtless, 2000, 2004). The recent reversal of the trend towards earlier final retirement as been attributed to the prominence of these pension plans in the economy (Munnell and Sundén, 2004), where one estimate predicts that DC plan coverage delays retirement two years longer than DB plan coverage (Johnson, 2009).

Private asset accumulation in the third pillar and beyond. Another private pension-saving instrument also emerged outside of the workplace in the 1980s to provide a retirement saving strategy. Individual Retirement Accounts (IRAs) are third pillar strategies that provide a tax-sheltered means for saving among non-workers as well as workers and their families. These bank-based plans grew slowly over the 1980's and 1990's as wages stagnated or fell across the working and middle classes (VanDerhei and Copeland, 2001).

Other assets are also components of personal retirement saving. Home equity has been perceived as particularly important for investment and savings, although the most recent period can be characterized as exceptional given a climate of excessive speculation and unbridled risk. Nevertheless, in recent decades this source of wealth is second only to pension wealth in its contribution to individual wealth portfolios that factor into retirement decision-making by workers (Madrian, Mitchell and Soldo, 2007).

Employment, Unemployment and Retirement in the Workforce

The U.S. labor market is by definition unregulated following European standards. Few constraints regulate employers' decisions regarding restructuring through layoffs, outsourcing of labor, preferences for contingent workers, wage adjustments, furloughs, etc. The decline of unionization from a high of approximately 25-30 percent of the labor force in the 1950's to slightly above 10 percent today exacerbates the unregulated climate. And, a decade of further deregulation of industries has shifted firms' allegiances even further away from workers and consumers towards shareholders (Levy, 1998).

Another factor adding to the frontier-like character of the American labor market is the growing heterogeneity of the workforce. The workforce has become more and more heterogeneous in its composition in several ways. First, educational attainment in the U.S. population has increased across cohorts over the last century and the relatively open educational system is not as tightly coupled to the labor market as is the case in other countries, such as Germany, where tight certification requirements link education to work. Rather, educational training in the U.S. can be received in quite different academic and vocational contexts or tracks which are relatively impermeable (Elman and O'Rand, 2007), but which

remain accessible across the life course allowing workers to return to college or vocational training well into middle age (O’Rand, Hamil-Luker and Elman, forthcoming). These school re-entries are often associated with a major life transition (such as divorce or empty nest) or in response to perceived job insecurity (Elman and O’Rand, 2002). And while the baccalaureate degree confers distinct advantages in the general labor market granting enhanced employability and a “wage premium” to workers, employers are presented with workers with quite diverse training histories and specializations that require investment in their training for job-specific skills.

Second, women and ethnic minority groups across ages have steadily increased their relative share of the workforce. But, these groups are differentially concentrated in industrial and occupational sectors and their labor market experiences depart from those of the traditional male worker. Less stable work patterns, more job mobility and more frequent unemployment spells, high rates of part-time work, and multiple job incumbency are more prevalent among these groups. These workers are also less likely to be covered by occupational pensions and health insurance.

Historically, these marginal groups have also had higher rates of unemployment in a labor market with lower average rates of unemployment among adult workers age 25 or older when compared to other advanced countries (U.S. Department of Labor, 2009). The tradeoff in the U.S. employment system is between employment rates and wage rates; lower sustained relative unemployment at about half the levels of many European countries is offset by lower relative wages.

Third, older workers (over the age of 55) make up increasingly larger portions of the labor force as well. Between 2020 and 2050, one-fifth of the labor force will be over age 55 (Toossi, 2002). The trend towards early retirement, i.e. retirement before eligibility for full Social Security benefits, probably halted in the mid-1990’s and then reversed, especially among older men (Quinn, 1997; 2002). The U.S. Bureau of Labor Statistics (U.S. Department of Labor, 2009) reports, for example, that between 1985 and 2007 the labor force participation rates of men and women between the ages of 65 and 69 increased from 24 to 34% and 14 to 26%, respectively. The principle explanations for this reversal include the changes in Social Security age- and earnings-eligibility rules mentioned earlier (Gustman and Steinmeier, 2009); intercohort improvements in health and average educational levels (Hughes and O’Rand, 2004; Johnson, 2009); financial uncertainties and under-saving in DC pensions (Munnell and Sunden, 2004); and labor market insecurity related to feared layoffs and limited re-employment opportunities for older workers (Adler and Hilber, 2009).

The timing (earlier versus later) of retirement is not all that has changed. Patterns of labor force withdrawal have also become more diverse, based on work histories attached to demographic, biographical, and structural factors. Pathways to retirement can cross multiple employment and health-related states related to unequal educational and employment histories and related risks for lower income and savings and poorer health. Men and women differ significantly in their opportunities for retirement and health insurance coverage over the work life and consequently in their opportunities for withdrawal from the labor force to a retirement supported by an occupational pensions. Intermittent work histories and poorer health earlier in life increase the risks of marginal workers for work disability, job loss and lower prospects for reemployment (Flippen, 2005). Black and Hispanic men and women are at risk, but women are at higher risk than men across race/ethnic groups (Brown and Warner, 2008).

Older workers generally face discriminatory hiring practices, especially following job displacement (Johnson, 2009). The productivity of older workers may be doubted based on assumptions that their education and skills are outdated or that their cognitive abilities are declining with age. Older workers may also be perceived to be more expensive than younger workers.

Nevertheless, higher percentages of older workers persist in the labor market or return to it after retiring—a pattern labeled “unretirement.” The most recent studies of unretirement report that nearly half

of retirees since the early 1990's follow nontraditional retirement paths, with half of this group returning to work after a full retirement (Maestas, 2005).

The Growth of Income Inequality Before and After Retirement

Globalization processes have clearly changed employment and retirement institutions. They have also produced greater economic inequality within nations. A striking trend in the U.S. and several other countries is a seeming surge in income and wealth inequality in which the top one percent of the income distribution has increased its share of total income and wealth at an accelerating rate over the last two decades (Gottschalk and Smeeding, 1997). This trend, coupled with salary/wage stagnation in the middle and working classes, has increased the cut-point ratios of the top to median and top to bottom decile income groups.

Growing economic inequality in working age populations influences retirement inequality by stratifying both the sources and the levels of retirement income. Those in the lowest 20th percentile of households with heads aged 62 or more largely depend on Social Security, while those in the top 20th percentile largely depend on income from assets (including occupational pensions and financial income) and earnings. The latter level of income is larger than the former by a factor of seven (Butrica, Iams, and Smith, 2004/2004).

HYPOTHESES

Five general hypotheses guide the analyses that follow. They address the historical and structural processes that characterize the U.S. workplace at the end of the 20th century just summarized.

Cohort Effects: First, we hypothesize that succeeding (younger) cohorts will exhibit more flexible employment/retirement histories than the oldest cohort. Younger cohorts will have encountered the changes in the workplace brought by globalization that have loosened the employment relationship. They will also represent more heterogeneity in their demographic and occupational characteristics.

Human Capital Effects: Second, higher levels of human capital will decrease the likelihood of unemployment, increase the likelihood of reemployment, increase upward earnings mobility and decrease downward earnings mobility, decrease the rate of retirement and increase the rate of unretirement.

Employer Benefit Coverage Effects: Third, we hypothesize that pension and health insurance structures will influence employment/retirement patterns. Coverage by these benefits will reduce the risk of unemployment and increase the risk of reemployment, decrease the likelihood of downward earnings mobility and increase the likelihood of upward earnings mobility. DC plan coverage will slow the rate of retirement.

Period Effects: Fourth, period factors related to unemployment rates and stock market performance will affect employment and earnings patterns. Increases in the general unemployment rate will increase older workers unemployment, decrease the likelihood of reemployment and increase downward earnings and income mobility. Trends in stock market performance will positively affect employment, reemployment and upward income mobility and negatively affect unemployment and downward income mobility.

Retirement Stratification Effects: Fifth, the mix and levels of economic resources in retirement will vary by cohort, structural access to resources, and human capital reflected in educational, occupational and work histories.

DATA AND METHODS

To investigate labor market trends among older Americans, we use data from the Health and Retirement Study (HRS). Funded primarily by the National Institute on Aging and administered by the Institute for Social Research at the University of Michigan, the HRS conducts in-depth interviews with a nationally representative sample of adults over the age of 50. Interviews began in 1992 with a sample of 12,652 persons born between 1931 and 1941. Interviews have been conducted every two years since then, with the latest data released from the 2006 interviews. Although the HRS provides the most comprehensive data on economic and employment circumstances of aging adults in the United States, population interviews present certain limitations. To provide more detailed information about respondents’ earnings and work histories, we obtained confidential access to restricted data provided by the Social Security Administration (SSA). We linked the detailed Social Security records of past earnings and employment to the HRS data, creating quarterly work and earnings histories from 1981 to 2006. Over this period, respondents aged from 50 to 75. For more detailed information about the data, please see Karp (2008).

Sample selection for the analyses depends on the outcome variable under investigation. For models examining older adults’ likelihood of unemployment, we select all respondents aged 50 or older who are working full- or part-time. We then select respondents who experienced at least one spell of unemployment after age 50 and estimate their likelihood and timing of securing employment again. To examine earnings mobility, our sample includes those who are employed at the age of 50. We investigate the timing of transition to retirement by following all employed and unemployed respondents from the age of 50 until they retire or are censored. Based on the sample of persons who experienced retirement, we analyze pension income and the likelihood of re-employment after retirement.

To gain a picture of diverse labor force trajectories among older Americans, we first conduct sequence analyses that show the most common late career and retirement pathways. Next, we use transition rate models (Blossfeld, Golsh and Rowher 2007) to measure the timing of unemployment, reemployment, retirement, and unretirement. Competing risk transition rate models analyze income mobility patterns and their determinants in the late employment career. Finally, we use growth curve models to measure vacillating pension income over time and its predictors.

Our first dependent variables measure the timing and experience of unemployment and re-employment. We consider persons unemployed if they are not working but are available for and actively seeking work. Self-reported unemployment status and timing is collected in each survey year between 1992 and 2006. Respondents who reported unemployment spells gave the dates unemployment began and ended. In addition, respondents reported employment status changes after unemployment. In 1992, respondents provided retrospective details about unemployment experiences. Lack of recall may mean that unemployment is under-estimated in our models. We do not use Social Security data to augment HRS unemployment measures because the Social Security earnings histories only report whether or not respondents are working and receiving earnings. In addition to unemployment, respondents may not be working because they are disabled or out of the labor force. Thus, we rely solely on HRS interview data to measure unemployment status and timing. The impact, however, is likely trivial because unemployment patterns among our sample mirror those found in U.S administrative measures of unemployment for older workers. In addition, only a few discrepancies emerged when comparing Social Security earnings data to self-reported unemployment spells.

For employed respondents, we examine income mobility patterns by assessing year to year changes in earnings. We adjust wages for inflation, measuring yearly earnings in constant 2006 dollars. We consider an earnings increase of 10% or more between consecutive years as upward mobility and downward mobility as an earnings decrease of at least 10% in consecutive years. We define retirement as

receiving some form of pension income and being not or only marginally employed. We use self-reported labor force status and first date of pension receipt as well as Social Security earnings and income records to identify the first date of retirement. Because pension income in the United States is quite unstable, we use time-varying yearly measures of public and private pension income, adjusted for inflation. To correct for the skewed distribution of private pension income, we transform the distribution to a logged dollar amount. Social Security income follows a normal distribution and we use yearly dollar amounts. Finally, we examine the extent to which retirees return to the labor force to work full or part-time. We measure the timing and experience of unretirement through the self-reported survey data as well as the Social Security records.

The key explanatory variables in the analyses are measures for birth cohorts. We compare persons born 1931-33 and 1934-36 to those born 1937-41. This decision is based on a fundamental change in U.S. retirement policies for those born after 1937. For younger cohorts, normal retirement age, or the age at which one can receive full public pension benefits, begins at age 65. For those born after 1937, the normal retirement age is gradually increased by 2 month increments for each consecutive birth year. This results in a normal retirement age of 67 for those born in 1960 or later.

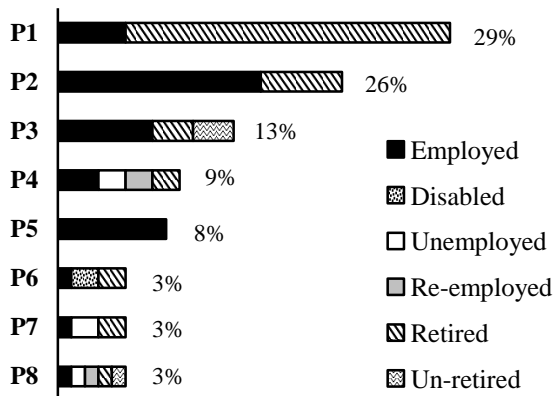
Demographic measures include gender, age at first pension receipt, and education. We compare those with a university degree to those who did not complete a secondary education, those with a high school (secondary) degree, and those with some university or post-secondary vocational training.. The remaining covariates are time-varying measures. We use the EGP-class scheme to measure occupational class with seven categories: upper service, lower service, routine non-manual employees, sales and service employees, small proprietors, skilled manual workers, and semi- and unskilled manual workers. To examine the impact of firm size on retirement decisions and income, we compare those who worked in firms with 1-25 employees to those in firms with 26-100, 101-250, and over 250 employees. We use Singelmann's (1978) classification of industrial sectors comparing those in the extractive and transformative sectors to those in the producer, distributive, personal services, and social services. Because private pension coverage likely influences employment decisions, we compare employees with no private pension coverage to those with a defined benefit plan, a defined contribution plan, and both a defined benefit and defined contribution plan. Lacking a single-payer health insurance system, Americans may base employment decisions on their health insurance coverage. To examine this possibility, we compare those without health insurance to those with government-provided (Medicare, Medicaid, and veterans) insurance or employer-provided health insurance. To examine the impact of broader economic forces, we include yearly measures of the US unemployment rate as collected and published by the U.S. Bureau of Labor Statistics. Because the unemployment rate is a lagged indicator, confirming but not foreshadowing long-term market trends, we assess the effect of national unemployment on individuals' labor trajectories by measuring the unemployment rate one year preceding older workers' job transitions. In addition, our models include yearly measures of the Standard & Poor's 500 Index adjusted by the Consumer Price Index (S&P 500/CPI). Dating back to 1923, the S&P 500 is an index of the 500 most widely held common stocks on the New York Stock Exchange and is considered one of the best gauges of U.S. equities markets.

RESULTS

Before examining predictors of older workers' labor market trends, we first explore their individual pathways through employment, unemployment, disability, and retirement as they age. Figure 1 depicts

the most common sequences of employment states for respondents who were employed at age 50 and followed through the ages of 65-75. The most common pathway, followed by 29% of the sample, consists of stable employment followed by early retirement. Marked as P1 on the chart, this pathway is characterized by employment uninterrupted by disability or unemployment, followed by pension receipt by the age of 62. An additional 26% of the sample followed P2, working until retirement at the age of 63-65. Not shown in Figure 1, 3% of the sample experienced stable employment histories followed by retirement after age 65. The third most common pathway, marked as P3, consists of the 13% of the sample with steady employment, followed by retirement, then re-entry into the labor force. P4 shows the additional 9% of the sample who experienced unemployment in their 50s or 60s, followed by re-employment and then retirement. P5 depicts the pathway of steady employment, unmarked by disability, unemployment, or retirement. The majority of those following P5 are members of the youngest cohort who were aged 65-69 in 2006. P6, P7, and P8 each make up approximately 3% of the sample’s late career and retirement pathways. The disability pathway to retirement is presented in P6, the unemployment pathway in P7. P8 depicts multiple career changes in a relatively short time frame, which includes employment, unemployment, re-employment, retirement, and un-retirement. The remaining 2% of the sample is distributed among five uncommon pathways: employment then disability; employment, disability, retirement, un-retirement; employment followed by unemployment; employment, unemployment, re-employment; and employment, unemployment, retirement, and un-retirement.

Figure 1: Most common late career pathways for Americans employed at age 50 and followed to age 65-75



Source: Own calculations based on HRS 1992-2006 and Social Security Data 1980-2006.

Table 1 presents descriptive statistics for our dependent and independent variables separately for men and women and by birth cohort. First, Table 1 shows that disability is an uncommon experience for older workers, but has become more frequent in more recent cohorts. Approximately one out of five of the youngest HRS respondents experience at least one spell of unemployment after age 50. The risk of unemployment is greater for more recent cohorts of older men and women. Among the unemployed, the majority return to the work force. Although men and women are equally likely to experience unemployment, men in every cohort are more likely than women to return to the workforce after unemployment. Younger cohorts also are more likely to become re-employed. For example, while 54% of women in the 1931-33 cohort are re-employed after unemployment, 70% of women born in the 1937-41 cohort are.

Table 1: Descriptive indicators for later life labor force status and benefits by cohort and gender

	Men			Women		
	1931-33	1934-36	1937-41	1931-33	1934-36	1937-41
<i>Labor Force Status and Income</i>						
Disabled after age 50	0.05	0.09	0.13	0.06	0.08	0.13
Unemployed after age 50	0.17	0.20	0.21	0.17	0.16	0.20
New job after unemployed	0.65	0.72	0.79	0.54	0.63	0.70
Had 4+ jobs in career	0.17	0.14	0.20	0.09	0.09	0.12
10+ years at most recent job	0.48	0.49	0.42	0.41	0.36	0.34
Downward income mobility	0.75 ^{ns}	0.75 ^{ns}	0.74 ^{ns}	0.83	0.79	0.77
Upward income mobility	0.78 ^{ns}	0.78 ^{ns}	0.79 ^{ns}	0.86	0.87	0.92
Retired at age 62	0.50	0.51	0.38	0.60	0.59	0.53
Retired at age 65	0.81	0.85	0.73	0.87	0.88	0.78
Employed after retirement	0.25	0.21	0.18	0.17 ^{ns}	0.17 ^{ns}	0.15 ^{ns}
Social Security income at 65	\$10,861	\$10,488	\$12,280	\$7994	\$7489	\$8416
Private pension income at 65	\$19,443	\$18,741	\$19,590	\$12,499	\$9576	\$13,231
<i>Demographics</i>						
Non-Hispanic White	0.78 ^{ns}	0.81 ^{ns}	0.82 ^{ns}	0.78 ^{ns}	0.78 ^{ns}	0.78 ^{ns}
College degree	0.21 ^{ns}	0.22 ^{ns}	0.22 ^{ns}	0.14 ^{ns}	0.13 ^{ns}	0.14 ^{ns}
Some college	0.17 ^{ns}	0.20 ^{ns}	0.20 ^{ns}	0.18 ^{ns}	0.19 ^{ns}	0.21 ^{ns}
High school degree	0.27 ^{ns}	0.29 ^{ns}	0.30 ^{ns}	0.36 ^{ns}	0.37 ^{ns}	0.36 ^{ns}
No degree	0.35	0.29	0.28	0.33	0.31	0.29
<i>Occupational Class of Last Job</i>						
Upper service	0.11 ^{ns}	0.12 ^{ns}	0.13 ^{ns}	0.07 ^{ns}	0.08 ^{ns}	0.09 ^{ns}
Lower service	0.09 ^{ns}	0.10 ^{ns}	0.10 ^{ns}	0.10 ^{ns}	0.12 ^{ns}	0.13 ^{ns}
Routine non-manual	0.15 ^{ns}	0.15 ^{ns}	0.15 ^{ns}	0.38 ^{ns}	0.37 ^{ns}	0.37 ^{ns}
Sales	0.08 ^{ns}	0.09 ^{ns}	0.08 ^{ns}	0.14 ^{ns}	0.15 ^{ns}	0.16 ^{ns}
Self-employed	0.28	0.22	0.17	0.15 ^{ns}	0.12 ^{ns}	0.12 ^{ns}
Skilled manual	0.23	0.27	0.30	0.08 ^{ns}	0.09 ^{ns}	0.09 ^{ns}
Semi- & unskilled manual	0.05 ^{ns}	0.05 ^{ns}	0.07 ^{ns}	0.08 ^{ns}	0.07 ^{ns}	0.06 ^{ns}
<i>Industry Sector Pre-Retirement</i>						
Transformative	0.42	0.37	0.38	0.14 ^{ns}	0.14 ^{ns}	0.15 ^{ns}
Producer services	0.07 ^{ns}	0.08 ^{ns}	0.09 ^{ns}	0.09 ^{ns}	0.11 ^{ns}	0.11 ^{ns}
Distributive services	0.23 ^{ns}	0.24 ^{ns}	0.25 ^{ns}	0.18 ^{ns}	0.19 ^{ns}	0.18 ^{ns}
Personal services	0.04 ^{ns}	0.04 ^{ns}	0.03 ^{ns}	0.07 ^{ns}	0.05 ^{ns}	0.06 ^{ns}
Social services	0.22 ^{ns}	0.24 ^{ns}	0.22 ^{ns}	0.51 ^{ns}	0.49 ^{ns}	0.49 ^{ns}
Extractive	0.03 ^{ns}	0.02 ^{ns}	0.04 ^{ns}	0.01 ^{ns}	0.01 ^{ns}	0.01 ^{ns}
<i>Employment Pre-Retirement</i>						
Worked full-time	0.57	0.66	0.73	0.28	0.36	0.45
Worked part-time	0.35	0.25	0.18	0.31	0.28	0.24
Unemployed	0.02 ^{ns}	0.02 ^{ns}	0.02 ^{ns}	0.01 ^{ns}	0.01 ^{ns}	0.02 ^{ns}
Disabled	0.05 ^{ns}	0.05 ^{ns}	0.06 ^{ns}	0.07 ^{ns}	0.07 ^{ns}	0.07 ^{ns}
Out of the labor force	0.01 ^{ns}	0.01 ^{ns}	0.01 ^{ns}	0.33	0.28	0.22
<i>Firm Size of Last Job</i>						
1-25 employees	0.22	0.26	0.28	0.30 ^{ns}	0.28 ^{ns}	0.29 ^{ns}
26-100 employees	0.16 ^{ns}	0.16 ^{ns}	0.17 ^{ns}	0.32 ^{ns}	0.34 ^{ns}	0.33 ^{ns}
101-250 employees	0.09 ^{ns}	0.08 ^{ns}	0.08 ^{ns}	0.15 ^{ns}	0.15 ^{ns}	0.16 ^{ns}
> 250 employees	0.34	0.29	0.27	0.23 ^{ns}	0.23 ^{ns}	0.22 ^{ns}

Table 1 (continued): Descriptive indicators for later life labor force status and benefits

	Men			Women		
	1931-33	1934-36	1937-41	1931-33	1934-36	1937-41
<i>Pension Coverage among Workers</i>						
Defined benefit (DB)	0.27	0.23	0.23	0.20 ^{ns}	0.21 ^{ns}	0.19 ^{ns}
Defined contribution (DC)	0.16	0.22	0.25	0.14	0.18	0.25
DB and DC	0.01	0.03	0.04	0.01	0.02	0.04
No private pension	0.56	0.55	0.42	0.66	0.60	0.56
<i>Health Insurance Coverage Age 60</i>						
Employer-provided	0.61 ^{ns}	0.59 ^{ns}	0.62 ^{ns}	0.34	0.34	0.40
Medicare	0.04	0.08	0.11	0.04	0.07	0.09
Medicaid	0.05 ^{ns}	0.04 ^{ns}	0.04 ^{ns}	0.07 ^{ns}	0.09 ^{ns}	0.08 ^{ns}
Veterans’ administration	0.10	0.09	0.06	0.06	0.04	0.04
No health insurance	0.24 ^{ns}	0.24 ^{ns}	0.23 ^{ns}	0.48	0.47	0.38

Source: Own calculations based on Health and Retirement Study 1992-2006 linked to Social Security Earnings Data 1980-2006.

Note: Among men and among women, all differences in means across cohorts are statistically significant at the 0.01 level unless otherwise noted as non-significant, “ns.”

Job mobility has increased for more recent cohorts while job tenure has declined. For example, nearly half of older men in the 1934-36 cohort worked at least 10 years at their most recent job compared to 42% of men born just three years later. The percentage of older workers who changed jobs at least four times in their career also increased among more recent cohorts of men and women. For men, there are no significant cohort differences in income mobility, defined as at least a 10% increase or decrease in yearly earnings in constant dollars in consecutive years. Women in each cohort are more likely to experience downward income mobility than men, but the gap is smallest for the youngest cohort. In fact, the risk of downward income mobility is lower among younger women than older women and younger cohorts of women face more opportunities for upward income mobility than older cohorts.

Table 1 also shows a growing percentage of men and women working beyond the ages of 62 and 65. Half of men in the oldest cohort are retired by the age of 62 and 81% are retired by age 65. For the youngest cohort of men, however, 62% are employed at the age of 62 and only 73% are retired at age 65. Although retirement rates are higher for women than men across cohorts, women experience similar increases in working beyond ages 62 and 65. After retirement, 15-25% of older workers return to the work force. Unretirement is less common for younger men, partially due to the fewer post-retirement years they have lived in which to return to the work force.

Cohort trends in Social Security and private pension income at age 65 reflect broader economic conditions in the United States. Members of Cohort 2 turned 65 in 1999, 2000, or 2001. This is the period when the dot-com bubble expanded then burst (Cassidy 2002). From 1998 to 1999, new Internet-based companies emerged on the market increasing individual speculation in stocks, market confidence, and the availability of venture capital. After frenzied growth in e-businesses, the dot-com bubble burst in 2000, partly due to the federal court decision declaring Microsoft a monopoly, declining business spending after the Y2K buildup, massive sell-orders for multi-billion dollar high tech stocks, and the overall slowing of the U.S. economy. The Dow Jones peaked on January 14, 2000, while the technology-heavy NASDAQ Composite Index declined nearly 9% in just 6 days in March 2000. Thus, the dip in average pension levels for members of Cohort 2 compared to those born just two years earlier or two years later reflects broad market influences on the U.S. stock market in the year in which older adults draw their pensions.

Labor market structures and employment opportunities stratified by gender contribute to women’s lower average pension income across cohorts and time. Similarly, women fare worse economically than men in terms of their total assets and home values. Women in all cohorts are less likely to have obtained

a university degree, work in the upper service sector, work full-time, and have private pension coverage or health insurance. Few clear changes over time emerge for older employees' industrial sector, occupational class, or firm size, although men in the 1937-41 cohort are more likely to work as skilled manual laborers and work for smaller firms and less likely to be self-employed than the older cohorts. Younger women are more likely to have employer-provided health insurance and Medicare. Younger cohorts of men and women are more likely to work full-time preceding retirement and have a defined contribution pension.

We further explore these bivariate relationships through a series of transition rate analyses that model the timing and predictors of late employment career changes. Table 2 presents parameter estimates from transition rate models predicting the risk of unemployment after age 50 and re-employment among the unemployed. Because there are notable gender differences in later life employment patterns, we present the results separately for men and women. For example, while White men have a lower risk of experiencing unemployment than men of color, White women have a higher risk of unemployment and lower risk of re-employment than women of color. Men in sales jobs have higher risk of unemployment than men in semi- and unskilled manual labor jobs. In contrast, women employed in sales occupations are likely to experience more job security than women in semi- and unskilled jobs. Lower educated men are at greatest risk of unemployment and are less likely to be re-employed than men with university degrees. In contrast, women without a high school degree are less likely to experience unemployment than women with a college degree and are more likely to return to work after unemployment.

Table 2 shows that some predictors of unemployment risk are similar for men and women. Older cohorts are less likely to experience unemployment and re-employment compared to the 1937-41 cohort. Within cohorts, older adults are less likely to become unemployed and more likely to be re-employed. Men and women who work full-time face lower risk of unemployment and higher risk of re-employment compared to part-time employees. Workers who have pension plans and employer-provided health insurance experience lower risk of unemployment and higher risk of re-employment compared to workers without these benefits. Men with government-provided health insurance, however, have a higher risk of unemployment than men without health insurance. Men and women who receive government-sponsored health care are less likely to return to work after unemployment than those who lack health insurance. Finally, broader economic conditions similarly influence men and women's risk of unemployment. Higher US unemployment rates are associated with elevated individual risk of unemployment and reduced risk of re-employment. The stronger the U.S. stock market, as measured by the S&P 500, the lower the risk of respondents' unemployment and higher the risk of reemployment.

Figures 2 and 3 show aging and cohort influences on later life employment trajectories. For example, men in the youngest cohorts have sharply increasing risk of unemployment as they age into their 60s, at which time unemployment risk stabilizes. Cohort effects are also evident in Figure 2. The gap in estimated risk of unemployment between the poorest and best educated men is largest among the youngest cohort. College educated men in their 60s born between 1937 and 1941 have virtually the same risk of unemployment as high school dropouts in their 60s born between 1931 and 1933. Among women the relationship between education and unemployment remains constant across birth cohorts. For re-employment, however, the gap in risk of re-employment between women with and without a high school degree is greatest for the 1937-41 cohort. Figure 3 presents the interactive relationship between re-employment, birth cohort, and women's levels of education. For all cohorts, women's transition from unemployment to employment is most likely to occur within one year of unemployment. The risk of re-employment then increases gradually and stabilizes. Whereas less than half of unemployed college-educated women born between 1931 and 1933 return to the labor force, all women in the 1937-41 cohort without a high school degree return to work after unemployment.

Table 2: Predictors of the risk of unemployment after age 50 and re-employment after unemployment

	Unemployment		Re-employment	
	Men	Women	Men	Women
<i>Demographics</i>				
Non-Hispanic White	-0.10*	0.12*	-0.01	-0.07*
Age	-0.02*	-0.02*	0.04*	0.02*
Birth cohort 1931-33	-0.40*	-0.46*	-0.28*	-0.40*
Birth cohort 1934-36	-0.11*	-0.61*	-0.19*	-0.12*
Reference: Birth cohort 1937-41	-----	-----	-----	-----
No degree	0.10*	-0.16*	-0.09*	0.15*
High school degree	0.09*	-0.30*	-0.12*	0.13*
Some college degree	0.03	-0.25*	0.06	0.06
Reference: University degree	-----	-----	-----	-----
Cohort 1* No degree	-0.24*	0.02	-0.12	-0.30*
Cohort 2* No degree	-0.46*	-0.07	-0.04	-0.35*
<i>Occupational Class</i>				
Upper service	-0.09	-0.11	0.20*	0.22*
Lower service	-0.16*	-0.13	0.43*	0.10
Routine non-manual	-0.33*	0.05	0.66*	0.25*
Sales	0.21*	-0.40*	-0.06	-0.30*
Small proprietors/self-employed	0.03	-0.17*	0.72*	0.66*
Skilled manual	-0.18*	-0.07	0.32*	0.43*
Reference: Semi- & unskilled manual	-----	-----	-----	-----
<i>Firm Size</i>				
26-100 employees	-0.07*	-0.18*	-0.02	0.20*
101-250 employees	0.08*	0.11*	0.02	0.01
> 250 employees	0.02	-0.08	-0.03	0.02
Reference: 1-25 employees	-----	-----	-----	-----
<i>Industry Sector</i>				
Producer services	-0.30*	0.21*	-0.11	0.45*
Distributive services	-0.08	0.11*	0.16*	0.48*
Personal services	-0.52*	-0.07	0.16*	0.58*
Social services	0.05	-0.19*	0.09	0.54*
Reference: Extractive & Transformative	-----	-----	-----	-----
<i>Employment Status at Last Job</i>				
Works full-time	-0.25*	-0.15*	0.36*	0.45*
Reference: Works part-time	-----	-----	-----	-----
<i>Pension Coverage at Last Job</i>				
Defined benefit (DB)	-0.30*	-0.33*	0.12*	0.15*
Defined contribution (DC)	0.07	-0.24*	0.13*	0.14*
DB and DC	-0.27*	-0.11*	0.13*	0.13*
Reference: No pension coverage	-----	-----	-----	-----
<i>Health Insurance Coverage</i>				
Employer-provided	-0.25*	-0.16*	0.24*	0.13*
Medicare	-0.02	-0.01	-0.21*	-0.11*
Medicaid	0.31*	0.01	-0.52*	-0.49*
Veterans’ administration	0.22*	0.13	-0.29*	-0.10
Reference: No health insurance	-----	-----	-----	-----
<i>Macroeconomic Indicators</i>				
Unemployment rate	1.58*	1.42*	-0.26*	-0.29*
Standard & Poor’s Index	-0.14*	-0.15*	0.13*	0.12*
Number of Events	3,278	2,837	4,039	3,962
Number of observations	17,295	16,130	5,443	6,094

Source: Own calculations based on HRS 1992-2006 linked to Social Security Earnings Data 1980-2006. *p<.01

Figure 2: Men's risk of unemployment by age, birth cohort, and education

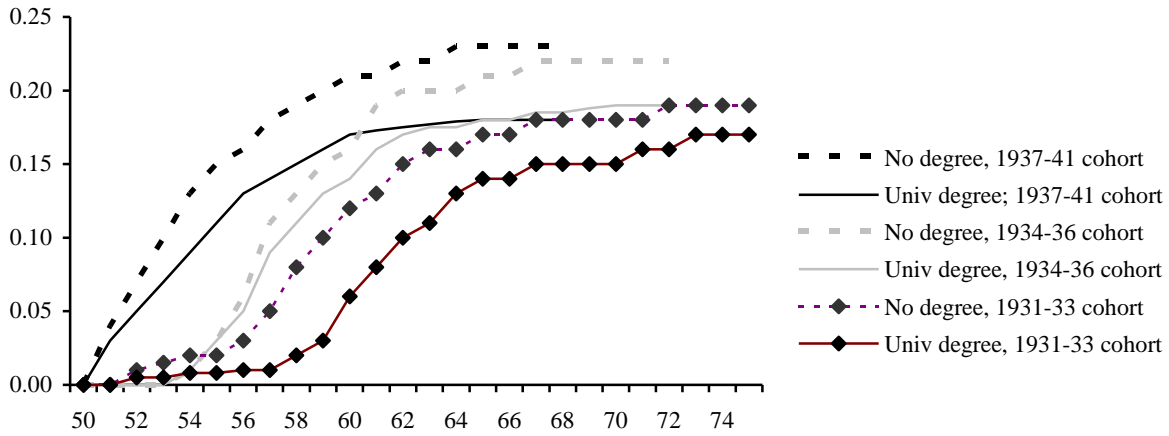
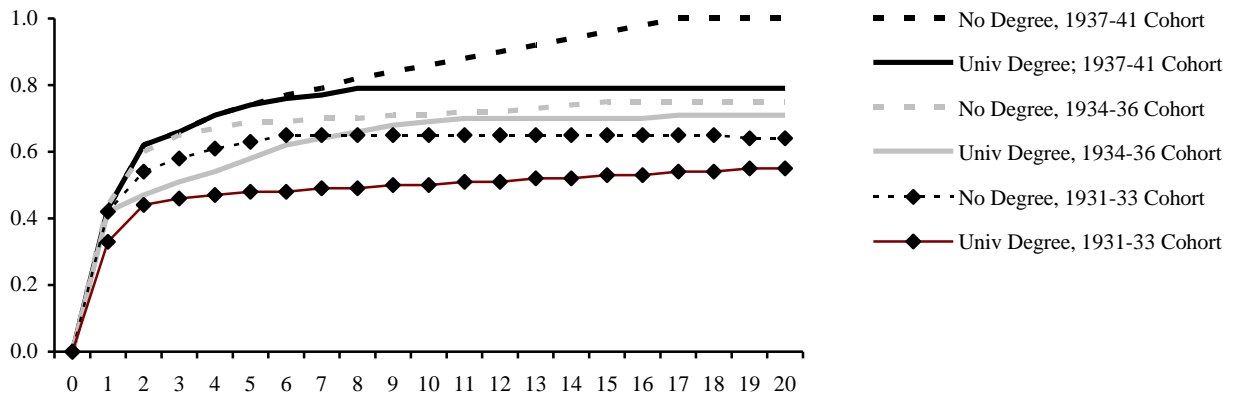


Figure 3: Unemployed women's risk of re-employment by number of years since unemployment, birth cohort, and education



Source: Own calculations of estimates from transition rate model using Health and Retirement Study and Social Security Earnings Data 1981-2006.

Next Table 3 presents results from competing risk transition rate models predicting earnings mobility among 50 year-old employed respondents followed until their retirement or censoring. Again, we present parameter estimates separately for men and women to highlight gender differences and similarities in older workers' earnings trajectories. For example, White men are more likely than men of color to see their earnings increase by at least 10% in consecutive years. No such racial and ethnic differences are evident among women. While self-employed men have a greater risk of upward earnings than semi- and unskilled manual workers, self-employed women have a lower risk. Women working in the social service sector are less likely to experience a 10% increase in wages than women in the extractive and transformative sectors. In contrast, men working in the social service sector have a higher chance of upward earnings mobility. While women in sales occupations have a higher risk of substantial earnings increases, the risk of higher wages for male sales employees does not differ from that of male semi- and unskilled- manual laborers.

Table 3: Predictors of the risk of later life earnings mobility

	Upward Earnings		Downward Earnings	
	Men	Women	Men	Women
<i>Demographics</i>				
Non-Hispanic White	0.25*	0.03	-0.07*	-0.10*
Age	-0.02*	-0.01*	-0.04*	-0.03*
Birth cohort 1931-33	-0.94*	-0.45*	-0.99*	-1.27*
Birth cohort 1934-36	-0.65*	-0.32*	-0.69*	-1.08*
<i>Reference: Birth cohort 1937-41</i>	-----	-----	-----	-----
Age*Cohort 1931-33	0.02*	0.01*	0.02*	0.02*
Age*Cohort 1934-36	0.02*	0.01*	0.03*	0.02*
No degree	0.44*	0.10*	0.56*	0.15*
High school degree	0.32*	0.11*	0.45*	0.13*
Some college degree	0.24*	0.17*	0.37*	0.11*
<i>Reference: University degree</i>	-----	-----	-----	-----
Cohort 1931-33* No degree	-0.25*	-0.16*	-0.19*	-0.18*
Cohort 1934-36* No degree	-0.18*	-0.15*	-0.18*	-0.16*
<i>Occupational Class and Firm Size</i>				
Upper service	-0.33*	-0.10*	-0.67*	-0.62*
Lower service	-0.22*	-0.04	-0.63*	-0.30*
Routine non-manual	-0.05	-0.04	-0.25*	-0.27*
Sales	0.07	0.06*	0.21*	0.31*
Small proprietors/self-employed	0.10*	-0.06*	0.17*	0.01
Skilled manual	0.04	-0.05	0.02	-0.02
<i>Reference: Semi- & unskilled manual</i>	-----	-----	-----	-----
26-100 employees	0.02	-0.03	-0.10*	-0.09*
101-250 employees	-0.05*	-0.08*	-0.19*	-0.18*
> 250 employees	-0.05*	-0.13*	-0.26*	-0.20*
<i>Reference: 1-25 employees</i>	-----	-----	-----	-----
<i>Industry Sector</i>				
Producer services	-0.08*	-0.02	-0.17*	-0.22*
Distributive services	-0.11*	0.02	-0.09*	-0.14*
Personal services	0.23*	-0.04	-0.08	0.02
Social services	0.18*	-0.07*	0.03	-0.24*
<i>Reference: Extractive & Transformative</i>	-----	-----	-----	-----
<i>Employment at Time of Change or Censoring</i>				
Works full-time	0.23*	0.07*	0.19*	0.09*
Unemployed	0.18*	0.10*	0.13*	0.05*
Job tenure	0.08*	0.07*	-0.07*	-0.10*
Income	0.01	0.02	0.01	0.01
<i>Pension and Health Insurance Coverage</i>				
Defined benefit (DB)	0.10*	0.06*	-0.09*	-0.09*
Defined contribution (DC)	0.10*	0.01	-0.09*	0.04
DB and DC	0.09*	-0.03	-0.09*	-0.08
<i>Reference: No pension coverage</i>	-----	-----	-----	-----
Employer-provided	0.19*	0.09*	-0.27*	-0.24*
Medicare	0.04	0.01	0.08*	0.01
Medicaid	0.16*	0.05	0.15*	0.16*
Veterans’ administration	0.17*	-0.06	0.05	0.14*
<i>Reference: No health insurance</i>	-----	-----	-----	-----
<i>Macroeconomic Indicators</i>				
Unemployment rate	-0.05*	-0.05*	0.03*	0.04*
Standard & Poor’s Index	0.11*	-0.01	-0.13*	-0.12*
Number of Events	13,579	13,653	12,960	12,717
Number of observations	17,297	16,348	17,297	16,133

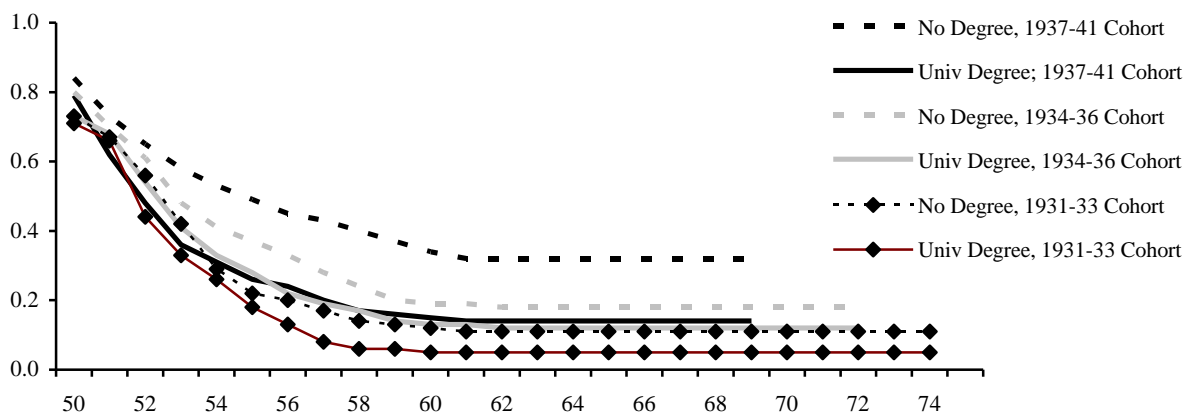
Source: Own calculations based on HRS 1992-2006 linked to Social Security Earnings Data 1980-2006.

*p<.01

Table 3 also shows some factors that similarly influence men and women's earnings trajectories. For example, older cohorts are less likely than the 1937-41 cohort to experience wage mobility. Within cohorts, older men and older women experience a lower risk of upward or downward earnings. The significant and positive estimate for the interaction between age and cohort suggests that the negative effect of age on risk of earnings mobility is greatest for the youngest cohort. For men and women, those without a university degree have a higher risk of substantial yearly wage changes compared to college graduates. The size of the effect is larger for men. The increased risk of upward and downward earnings for high school dropouts is smaller for the oldest two cohorts than the 1937-41 cohort, again showing increased educational inequality in labor market experiences for the youngest cohort. Figure 4 depicts these complex interaction effects and increasing educational inequality. For example, for male college graduates born between 1937 and 1941, the risk of upward income mobility in their late 50s to mid 60s mirrors the likelihood of upward mobility for high school dropouts born 1931-33.

Table 3 shows that older part-time employees, those in large firms and service occupations are less likely to make an income move than full-time employees, those in small firms and manual occupations. Increased job tenure, defined benefit pension coverage, and employer-provided health insurance are associated with increased likelihood of upward mobility and decreased risk of downward mobility. Unemployed women and men in all cohorts have a higher risk of earnings mobility, both upward and downward, compared to the continually employed. This is likely due to the substantial decline in income following unemployment and the lower baseline (\$0 in earnings) from which to increase 10% or more. A separate analysis compared earnings mobility succeeding unemployment to earnings mobility resulting from job changes. Among unemployed older workers who found a new job, only 2.3% experienced upward earnings mobility of at least 10% between pre- and post-unemployment jobs. Seventy-eight percent saw their earnings decline by at least 10% between pre- and post-unemployment jobs. In contrast, 84.3% of older workers who changed jobs had wage increases of at least 10% and only 6.4% experienced downward income mobility. At the macro level, high national unemployment rates are associated with increased individual risk of downward earnings and decreased risk of upward earnings. When the S&P 500 rises, so too does the likelihood of individual earnings. When the stock market declines, older workers' risk of downward earnings increases.

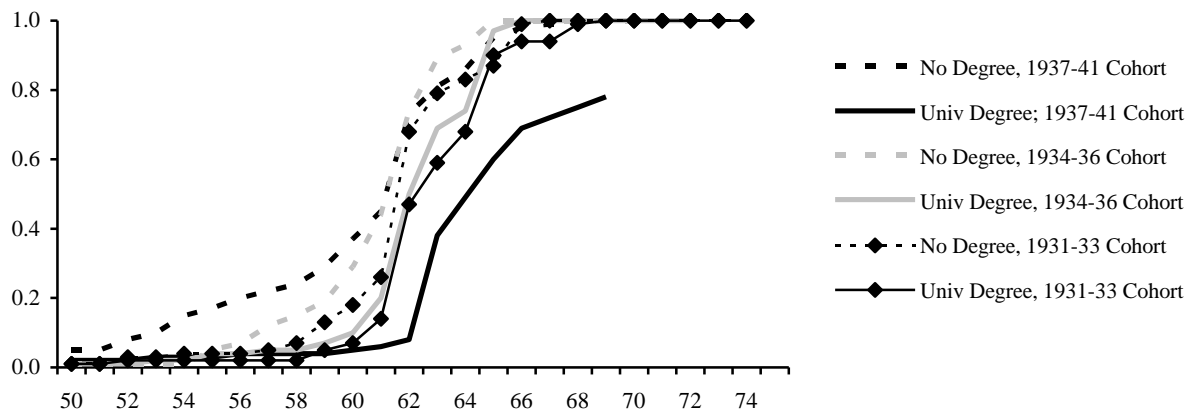
Figure 4: Men's risk of upward income mobility by age, birth cohort, and education



Source: Own calculations of estimates from transition rate model using Health and Retirement Study and Social Security Earnings Data 1981-2006.

Table 4 reports parameter estimates from transition rate models predicting older workers’ risk of retirement after age 50 and their likelihood of returning to the labor force after retirement. Few gender differences are seen among retirement predictors. Most striking, men with a retired spouse are more likely to retire, but spouses’ retirement status does not significantly impact the timing of women’s transition to retirement after controlling for other co-variates. For both men and women, youngest cohort members and non-Whites are the least likely to retire. Within cohorts, the risk of retirement increases with age, particularly for the oldest cohorts, but at a decelerating rate for all. For women, lacking a high school degree increases the risk of retirement more for the 1937-41 cohort than the older cohorts. As shown in Figure 5, educational inequality in retirement timing is greatest among the youngest cohort of women. By the age of 67, all women employed at age 50 have retired except for women with a university degree born 1937-41. Thirty-three percent of these women are still in the workforce.

Figure 5: Employed women’s risk of retirement by age, cohort, and degree



Source: Own calculations of estimates from transition rate model using Health and Retirement Study and Social Security Earnings Data 1981-2006.

As hypothesized, men and women in semi- and unskilled-manual occupations and those with lower levels of education are most likely to retire. Participation in defined contribution plans slows the transition to retirement, while older workers with a defined benefit plan are more likely to retire than employees who lack private pension coverage. Workers who receive their health insurance through their employers are less likely to retire than the non-insured; those receiving health insurance through the government are more likely to retire. Retirement risk is highest for those working in firms with over 100 employees, those in the extractive and transformative sectors, part-time male employees and the disabled. Macroeconomic indicators influence individual risk of retirement in the expected directions: high national unemployment rates and favorable stock markets increase the likelihood of retirement.

Among retirees, Table 4 presents predictors of returning to the work force after retirement. White men are less likely to unretire than men of color, but there are no racial/ethnic differences among women. Retirees in the oldest cohort are less likely to become re-employed in later life than men and women born after 1933. There are no significant age differences in the risk of un-retirement once other factors are statistically controlled in the models. This surprising result means that a 75 year-old retiree is just as likely to return to the labor force as a 55 year-old retiree with the same human capital, work history, employment benefits, and macroeconomic conditions. This finding again shows that we must situate

individual employment trajectories as people age into a particular historic period if we are to understand later life employment patterns. This need is emphasized again in the stronger relationship between education and unretirement in the youngest cohort. While men and women in the 1937-41 cohort who did not complete high school are more likely to return to employment than those with a college degree, this is not the case for men and women born between 1931 and 1936.

Table 4: Predictors of the risk of retirement after age 50 and un-retirement among retirees

	Retirement		Un-Retirement	
	Men	Women	Men	Women
<i>Demographics</i>				
Non-Hispanic White	0.14*	0.06*	-0.16*	0.01
Birth cohort 1931-33	1.52*	1.25*	-0.22*	-0.16*
Birth cohort 1934-36	1.33*	1.17*	-0.08	-0.05
<i>Reference: Birth cohort 1937-41</i>				
Age	0.03*	0.02*	0.01	-0.01
Age ²	-0.001*	-0.001*	--	--
Age*Cohort 1	0.03*	0.16*	--	--
Age*Cohort 2	0.02*	0.11*	--	--
No degree	0.28*	0.17*	0.28*	0.53*
High school degree	0.28*	0.14*	0.17*	0.24*
Some college degree	0.13*	0.03	0.13*	0.06
<i>Reference: University degree</i>				
Cohort 1* No degree	-0.03	-0.16*	-0.45*	-0.57*
Cohort 2* No degree	-0.01	-0.11*	-0.22*	-0.30*
<i>Occupational Class and Firm Size</i>				
Upper service	-0.11*	-0.17*	-0.13	0.52*
Lower service	-0.09*	-0.16*	-0.12	0.51*
Routine non-manual	0.02	-0.07*	0.03	0.32*
Sales	-0.11*	0.01	-0.06	-0.23*
Small proprietors/self-employed	-0.06*	0.05	0.67*	0.83*
Skilled manual	0.03	-0.07	-0.07	0.44*
<i>Reference: Semi- & unskilled manual</i>				
26-100 employees	-0.07*	0.01	0.22*	0.01
101-250 employees	0.09*	0.16*	0.13	-0.08
> 250 employees	0.07*	0.08*	0.08	-0.29*
<i>Reference: 1-25 employees</i>				
<i>Industry Sector</i>				
Producer services	-0.07*	-0.11*	-0.23*	-0.23*
Distributive services	0.03	-0.15*	-0.19*	-0.46*
Personal services	-0.05	-0.02	-0.38*	-0.16*
Social services	0.03	-0.12*	0.02	-0.26*
<i>Ref: Extractive & transformative</i>				
<i>Employment Status Before Retirement</i>				
Worked part-time	0.08*	0.02	0.61*	0.61*
Unemployed	0.26*	-0.05	0.15*	0.25*
Disabled	0.54*	0.49*	-0.68*	-1.23*
<i>Reference: Worked full-time</i>				

Table 4 (continued): Predictors of the risk of retirement after age 50 and un-retirement among retirees

	Retirement		Un-Retirement	
	Men	Women	Men	Women
<i>Pension Coverage</i>				
Defined benefit (DB)	0.23*	0.24*	-0.18*	-0.11*
Defined contribution (DC)	-0.42*	-0.33*	0.15*	0.35*
DB and DC	-0.26*	-0.36*	-0.01	-0.21*
<i>Reference: No pension coverage</i>				
Spouse retired	0.11*	0.01	0.06	0.12*
<i>Health Insurance Coverage</i>				
Employer-provided	-0.10*	-0.09*	0.16*	0.10*
Medicare	0.41*	0.30*	-0.07	0.02
Medicaid	0.30*	0.28*	-0.08	-0.21*
Veterans’ administration	0.19*	-0.04	0.05	-0.21*
<i>Reference: No health insurance</i>				
<i>Macroeconomic Indicators at Retirement</i>				
Unemployment rate	0.78*	0.73*	-0.59*	-0.33*
Standard and Poor’s 500	0.12*	0.13*	0.01	0.13*
Number of Events	15,566	14,798	2,957	2,546
Number of observations	17,539	16,660	15,566	14,798

Source: Own calculations based on HRS 1992-2006 linked to Social Security Earnings Data 1980-2006. * $p < .01$

Finally, Table 5 shows how pension income changes over time across cohorts. Table 5 presents parameter estimates from growth curve models predicting initial levels of pension income and growth in pension income in constant 2006 dollars. Results are presented separately for public and private pensions and for women and men. Presented in the first panel of Table 5, the first set of predictors measure the relationship between included variables and the amount of pension income first received. Age at pension receipt, unemployment rate, and the CPI adjusted Standard & Poor’s 500 Index (SPI) are centered around their means. Therefore, the coefficient for the intercept shows the predicted pension income for those in the reference categories, who first received their pension at age 62, at a 5.4% US unemployment rate, and under average US stock market conditions. For example, men of color born between 1937 and 1941 without high school degrees, in manual occupations, small firms, and the extractive or transformative sector, who continuously worked full-time, lacked private pensions, health insurance and spouses with private pensions receive \$10,845 in yearly Social Security benefits. Similarly described women receive \$8559. Whites and members of the older cohorts receive more Social Security than non-Whites and members of the 1937-41 cohort, with the cohort and racial gap in Social Security greater among men than women. Delaying age at first pension receipt increases the amount received, particularly for the older cohorts. Higher levels of education, employment in service occupations and large firms are associated with higher initial levels of Social Security income. Initial Social Security income is lower for those who worked in the social services, were unemployed in later life, worked part-time (for men), and who were not covered by a private pension at their last job. Men whose wives were covered by their own private pension plan earn \$405 more in initial Social Security benefits. In sharp contrast, women with husbands who had pension coverage received \$777 less in initial Social Security benefits than women without pension-covered husbands. Women with employer-provided health insurance receive more Social Security benefits, but this is not the case for men. Medicaid and VA health insurance are associated with lower levels of Social Security income. Women’s initial Social Security income is strongly influenced by broader economic conditions; a strong national economy is associated with higher Social Security income.

Table 5: Growth curve model estimates predicting pension income at retirement

	Social Security		Private Pension (ln)	
	Men	Women	Men	Women
Intercept	10,845*	8559*	8.92*	8.41*
<i>Demographics</i>				
Non-Hispanic White	1317*	294*	0.07*	0.01
Birth cohort 1931-1933	9838*	2968*	-0.13*	-0.07*
Birth cohort 1934-1936	6171*	1661*	-0.08*	-0.11*
<i>Ref: Cohort 1937-1941</i>				
Age at first pension receipt	1744*	772*	0.03*	0.01
Cohort 1 x Age at pension receipt	895*	278*	0.01	0.02
Cohort 2 x Age at pension receipt	285*	26	0.01	0.01
High school degree	289*	264*	0.06*	0.13*
Some college degree	475*	516*	0.18*	0.20*
University degree	723*	884*	0.34*	0.42*
<i>Reference: No high school degree</i>				
<i>Occupational Class and Firm Size of Last Job</i>				
Upper service	1224*	1211*	0.12*	0.02
Lower service	1067*	794*	0.12*	0.05
Routine non-manual	132	533*	0.06	-0.01
Sales	875*	-63	0.21*	-0.04
Small proprietors/self-employed	63	146	0.06*	-0.02
Skilled manual	709*	471*	0.10*	0.14*
<i>Reference: Semi- and unskilled manual</i>				
26-100 employees	15	305*	-0.01	0.13*
101-250 employees	129	454*	0.04	0.13*
> 250 employees	473*	461*	0.04	0.10*
<i>Reference: 1-25 employees</i>				
<i>Industry Sector of Last Job</i>				
Producer services	-358	-114	0.19*	0.09*
Distributive services	-13	90	0.14*	0.19*
Personal services	-965*	-250	0.19*	0.08*
Social services	-987*	-457*	0.28*	0.14*
<i>Ref: Extractive & transformative</i>				
<i>Employment History</i>				
Number of times unemployed after age 50	-230*	-121*	-0.07*	-0.05*
Number years worked part time after 50	-188*	-62	-0.11*	-0.05*
Number years disabled after age 50	-89	-55	-0.08*	-0.07*
<i>Private Pension and Health Insurance Last Job</i>				
Defined contribution (DC)	606*	-28	-0.26*	-0.26*
Defined benefit (DB)	638*	190	-----	-----
DB and DC	983*	893*	-----	-----
<i>Ref for Social Security: No private pension</i>				
<i>Ref for Private Pension: DB, DB & DC</i>				
Spouse with private pension coverage	405*	-777*	0.08*	-0.07*
Employer-provided	56	396*	0.24*	0.18*
Medicare	190	419*	-0.04	0.02
Medicaid	-464*	-944*	-0.05	-0.31*
Veterans' administration	-684*	-35	-0.06	-0.04
<i>Reference: No health insuran</i>				
<i>Macroeconomic Indicators</i>				
Unemployment rate	125	-1387*	-0.50*	-0.68*
Standard and Poor's 500	27	76*	0.74*	0.72*

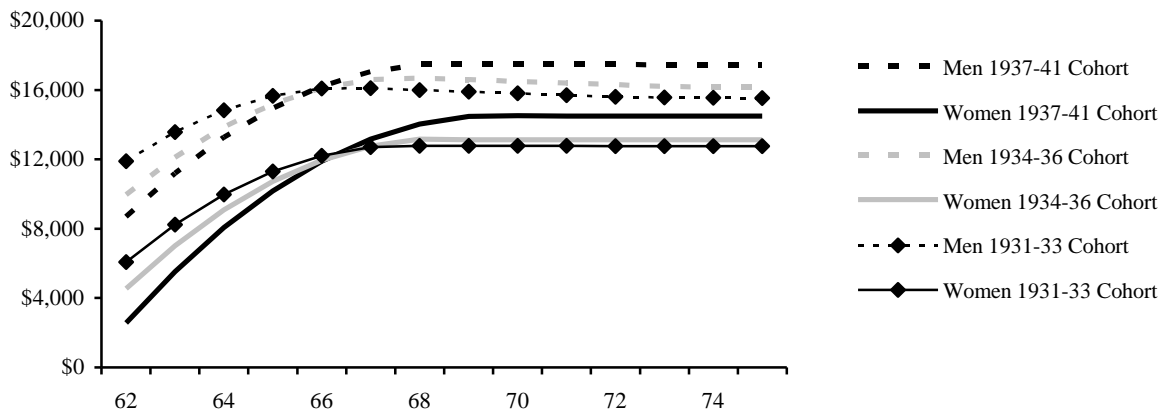
Table 5 (continued): Growth curve model estimates predicting pension growth after retirement

	Social Security		Private Pension (ln)	
	Men	Women	Men	Women
Fixed Effects for Linear Growth Rate				
Intercept	850*	290*	0.02	0.02
Age at first pension receipt	274*	99*	-----	-----
Birth cohort 1931-1933	-2818*	-613*	-----	-----
Birth cohort 1934-1936	-1812*	-426*	-----	-----
Ref: Cohort 1937-1941	-----	-----	-----	-----
Fixed Effects for Quadratic Growth Rate				
Intercept	-558*	-208*	-----	-----
Random Effects				
Intercept	65*	86*	0.01*	0.01*
Time	85*	105*	0.02*	0.02*
Time squared	68*	95*	-----	-----
Goodness of Fit (BIC)	41731	71513	14262	10362
Number of Cases	2136	2565	1350	1088
Number of Observations	6757	8758	4936	3527

Source: Own calculations based on HRS 1992-2006 linked to Social Security Earnings Data 1980-2006.
*p<.01

The second panel in Table 5 also shows that average, inflation-adjusted Social Security income increased by \$850 each year for men and \$290 for women. The significant, negative coefficient for the quadratic growth rate indicates that this increase slowed over time. Men and women who receive their first pension after age 62 experience elevated growth rates, as do members of the youngest cohort. Figure 6 depicts Social Security income trajectories by cohort and gender for those who first receive Social Security at age 62. This graph is based on growth curve models that include measures for time, time squared, cohort, age at pension receipt, and all interaction terms. At all ages and for all cohorts, women receive lower Social Security income than men. Members of the 1937-41 cohort receive lower initial benefits than older cohorts. However, the rate of increase of their public pension is greater than for those born between 1931 and 1936. Thus, by the age of 65 the youngest cohort’s Social Security income reaches that of their older peers then stabilizes at a higher level.

Figure 6: Predicted mean Social Security income by age, gender, and birth cohort



Source: Own calculations of estimates from growth curve model using Health and Retirement Study and Social Security Earnings Data 1981-2006.

Note: Predicted income for average person under average US economic conditions.

Table 5 also shows trajectories of private pension income for men and women who had pension benefit coverage in their late careers. The mean initial private pension income for men is \$7480 ($e^{8.92}$), \$4492 ($e^{8.41}$) for women. The youngest cohort receives higher initial levels of private pension income than the older cohorts. Among men, Whites receive higher private pension income than men of color, but no racial/ethnic differences appear among women. Those with university degrees, with stable full-time employment, defined benefit pension plans, and employer-provided health insurance have higher initial levels of private pensions. Employees in the extractive or transformative sectors and those with defined contribution plans receive lower pension income. Men, but not women, who work beyond age 62 receive higher initial pensions. For women, working in larger firms increases their initial private pension income. Although men whose wives are covered by private pensions receive higher pension income, the opposite is true for women. Increases in the unemployment rate and falling stock markets are associated with lower private pension incomes at time of retirement. As shown by the statistically insignificant coefficient for the linear growth rate in the second panel of Table 5, pension income remains stable over time in models controlling for human capital, work histories, employment benefits, and macroeconomic conditions.

CONCLUSIONS

Recent trends in the variability of the labor force behavior of older women and men across industrialized societies motivate a revision of our conceptualization of late careers and retirement. Retirement can no longer be defined as a narrowly demarcated, universal and absorbing transition from work to retirement, or from earnings to pension receipt. Rather, it is part of the lifelong career process, which consists of sequentially contingent transitions between jobs and jobless states of varying types and duration. As the worklife becomes more heterogeneous at older ages, the normative threshold of retirement is receding. The schedules by which worklives end are becoming more variable across individuals and at the population level the retirement transition appears more protracted.

Social Security structures late career exits with age-specific incentives that have been revised and adjusted as population aging has accelerated in the U.S., particularly with the aging of the Baby Boom cohorts. Early reduced benefits at age 62 have been reduced even further for future retirees from these cohorts and full benefits have been made more generous at ages following the eligible age for full benefits. Tax policies encourage work. The logic of these temporal incentives is to delay full retirement.

Workplace benefits such as occupational pensions and health insurance in the U.S. serve as incentives and disincentives in this career process as well. They operate to precipitate or to delay job shifts and retirements. The older occupational pensions in the U.S. that promised specific benefits until death served to retain workers for long durations until reaching retirement ages and then pension rules precipitated exits or severance. The newer occupational pensions do not provide certain benefits but incur financial risks for workers who must decide when their balances are sufficient to sustain their retirement years. As such, the new plans delay retirement or encourage continued work or reemployment.

These public and workplace institutions interact with workers' human capital and other biographical characteristics to produce heterogeneous late careers. Multiple pathways are followed into retirement based on individual work histories and employment institutions. Histories of unemployment or intermittent work allocate workers differently into retirement than stable careers and access to retirement resources. One consequence is earnings and pension inequality and relative vulnerability to downward mobility in income.

The future of retirement will be influenced by the course of globalization and its impact on work careers and on economic resources for retirement. The financial crisis of the last year, which affected

both unemployment rates and retirement accounts, has illuminated the precariousness of employment contracts and retirement institutions in both the public and private sectors. And, it has confirmed that the work career and the retirement transition are variable phenomena that require reconceptualization.

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