Couples' Retirement Timing in the United States in the 1990s: The Impact of Market and Family Role Demands on Joint Work Exits

By: Angela M. O'Rand and Janice I. Farkas Wassel

*** Note: Figures may be missing from this format of the document

Abstract:

The timing of retirement among married couples is a complex process. As women remain attached to the labor market for longer periods of their lives and as they bring market resources such as pensions and health insurance to the couple's retirement decision, they introduce new contingencies to the process and variability in job exits. Couples are most likely to coordinate their retirement timing to be as simultaneous as possible. However, the second most likely pattern is for husbands to precede their wives into retirement. This study used the Mature Women sample of the National Longitudinal Surveys between 1989 and 1997 to track the effects of family, pension, health insurance, and changes in spousal health statuses on joint and sequential retirement patterns. Proportional hazards models reveal that joint retirement is most likely among couples in which wives reach the ages of eligibility for Social Security and Medicare and among couples who have defined benefit plans. Alternatively, wives' health insurance coverage from their own employment tends to result in their delayed retirements following their husbands'. Husbands' health limitations and caregiving needs also delay their wives' retirement, while wives' health limitations are more likely to result in joint retirement.

Article:

The retirement transition in the United States is a contingent process that is undergoing significant change. While retirement continues to be a relatively universal experience, its timing and the economic and social conditions that underlie it are highly variable. Two sources of variability in the retirement transition are marital status at the time of the transition and the heterogeneity of working couples' responses to each other's circumstance as well as to their own market positions. Unmarried individuals are primarily responsive to their own employment, income, wealth, and health statuses. The behavior of retiring worker-couples, however, appears to be more complex. This study examines one cohort of retiring couples between 1989 and 1997—a period characterized by significant demographic and structural change with implications for retirement decision making. The problem is to distinguish the factors leading husbands and wives to retire as simultaneously as possible, to retire sequentially, or to remain at work. We draw upon family development theory to estimate the relative likelihood of these competing alternatives and their influences.

Recent Trends and Contextual Factors

At least two recent trends in U.S. retirement patterns underlie the growing interest in couples' retirement behaviors. *The first is the reversal of the trend toward early retirement* (i.e., retirement before Social Security insurance eligibility ages) among women and men alike. Between 1960 and the mid-1980s, men's labor force participation rates dropped significantly among those in the age range between fifty-five and seventy; but, beginning in the late 1980s and continuing to the present, the trend toward earlier retirement among men between fifty-five and seventy first leveled off, and then, among older groups, reversed (Quinn 1997; O'Rand and Henretta 1999). The labor force participation rates in 1990 and 1999, respectively, were 76.7 percent and 75.4 percent for men aged fifty-five to sixty-one in those years; 46.5 percent and 46.9 per-cent for men aged sixty-two to sixty-four; 26 percent and 28.5 percent for men aged sixty-five to sixty-nine; and 10.7 percent and 11.7 percent for men aged seventy or more. Among women—who have historically retired earlier be-cause of traditional work/family role histories—labor force participation rates between ages fifty-five and seventy and

older have steadily increased between 1980 and 1999. The labor force participation rates of women in 1990 and 1999, respectively, were 51.7 percent and 57.9 percent for women aged fifty-five to sixty-one; 30.7 percent and 33.7 percent for women aged sixty-two to sixty-four; 17 percent and 18.4 percent for women aged sixty-five to sixty-nine; and 4.7 percent and 5.5 percent for women aged seventy or more (Federal Interagency Forum on Aging Related Statistics 2001: 68, Table 10). There is a notable increase observable among all age groups above sixty-two years, groups that were eligible for social retirement benefits (Social Security) beginning at age sixty-two, and elder health insurance (Medicare) beginning at sixty-five years. The reversal in women's early retirement is more dramatic than that in men's.

Several demographic and structural changes probably contribute to the downturn in early retirement. The principal demographic factor is the general improvement in health and active life expectancy of the older population in the United States. Manton, Stallard, and Corder (1997) have traced these developments using the National Long-Term Care Survey and find that the older population is healthier and more vital than previously expected. This increase in disability-free life expectancy is most apparent in the community-dwelling population from their late fifties through their late sixties (Crimmins, Saito, and Ingegneri 1997). Thus, health limitations and disability as factors in retirement may be diminishing.

Structural factors contributing to the shift away from early retirement include market-based changes in the temporal relationship between employers and workers. The market-based changes include economic restructuring and the decline in the so-called long-term employment contract (Levy 1998). Economic restructuring has increased rates of voluntary and involuntary job mobility and early retirement. Job mobility is taking the form of voluntary or involuntary movement from career jobs to "bridge" jobs prior to retirement and returns to work after initial retirement (see Quinn 1999). The decline in the long-term employment contract is also evident in two other trends: in the expansion of contingent and nonstandard work arrangements in the United States and in the changing wage and employee benefits (occupational welfare) mix in worker compensation. The growing preference among employers for contingent labor has increased the share of part-time and contract work offered workers, especially female and ethnic minority workers (Levy 1998). Though highly diverse, these groups are largely low-wage workers with limited employee benefits.

The reconfiguration of the benefits mix for full-time workers to individualized private managed-care programs in health insurance and to individualized pension accounts (i.e., defined contribution as opposed to defined benefit plans) has shifted more responsibility and risk to the individual worker—and his/her family. The diversification of the employee benefits mix requires more and more workers to decide among an array of health coverage plans, that may or may not include other family members and that vary in their premium levels, co-payment rules, and level of access to care. Low-premium plans provide a minimal level of benefits (such as hospitalization for acute care only), limit insurance-covered access to a restricted list of plan-member health practitioners, and do not extend beyond retirement. Indeed, employer-provided post-retirement health insurance coverage declined between the late 1980s and mid-1990s; the proportion of retirees covered by employer provided health insurance between 1988 and 1995 declined from 44 percent to 34 percent (U.S. Department of Labor 1998). This trend may have motivated workers, in fear of job and health benefit loss, to stay, at work until Medicare eligibility at age sixty-five. Between 1993 and 1996, nearly one-fourth (22 percent) of the population aged forty-five to sixty-four was without health insurance for at least one month; in the same period the average number of months without health insurance coverage by the same age group was 5.5 (7.1 for those aged sixty-five and over) (Bennefield 1998a, 1998b). Job loss (including involuntary retirements) from restructuring or establishment closings contributed significantly to these trends.

Retirement plans provided by employers also shifted to a greater proportion of employee stock options and/or equity and bond account alternatives and away from traditional defined benefit plans that guaranteed specific monthly benefits for life. While the new plans can be carried between jobs and can more readily be transferred to family members as bequests and gifts, their management requires financial skills exceeding most workers' capabilities (O'Rand 2000). This shift also reflects a retreat by employers from occupational welfare costs.

Individual retirement accounts and health insurance for current workers only free the employer of liability stemming from the longer life expectancies of former workers.

Pension and health insurance coverage have been identified as important factors in the timing of retirement prior to full eligibility for Social Security and Medicare (at age sixty-five). Recent studies find that private health insurance coverage modulates retirement transitions before Medicare eligibility in countervailing ways. On the one hand, pension eligibility and health insurance that provides post-retirement benefits increase the rate at which men retire earlier (see Blau and Gilleskie 1997). On the other hand, high out-of-pocket expenses even among health insurance holders can retain workers on the job, slow retirement, or propel retirees back into the labor force. Women's retirement responses to both health and pension coverage appear to be more complex, depending upon a mix of factors that include spousal age differences, husband's employment and health status, and family economic well-being (Johnson and Favreault 2001).

Social Security income does not seriously stratify the older population be-cause of its progressive features. However, net worth—especially pension and nonresidential assets—does stratify the older population considerably. Pensions provide the most significant share of aggregate retirement assets converted to income across the largest segment of the retired population. Equity from home ownership is also more widely dispersed in the population, but not usually converted to retirement income. When home equity is excluded, the elderly are among the most highly unequal in wealth of all the U.S. population (Clark and Quinn 1999). Nonresidential family wealth is almost nonexistent in the bottom third of persons and couples over sixty-five, instead being highly concentrated in the top two wealth deciles that are themselves dominated by married couples as opposed to single persons. Black and Hispanic elderly households in the 1990s have median levels of nonresidential assets near zero (Smith 1997).

In short, early full retirement among couples declined over the 1990s, reversing a three-decade trend in the other direction. The extension of active life expectancy, the changing structure of pension and health insurance plans for older workers and retirees, and the spread of workplace insecurity have introduced disincentives to retire early.

The second trend influencing retirement timing is the increased rate at which women retire as pension-covered and health-insurance-covered workers themselves, instead of as dependent spouses. The population aged sixty-five and older in the United States is comprised predominantly of two distinctive groups: married couples and single women. Across both groups, women's relative economic independence in retirement has grown. Between 1960 and 1999, women's increased labor force attachment patterns are associated with: (1) the dramatically increased rate at which they became entitled to retiree Social Security benefits based on their own employment histories; (2) the steadily increasing rate at which they participated in employer-provided pensions that provide additional retirement income; and (3) the rate at which they carried their own employer-provided health insurance to protect themselves (and often their families) from health-related risks. The Social Security Administration (2000) reports that women's Social Security entitlements as workers (as opposed to dependent spouses) have grown from two out of five women in 1960 to nearly two out of three women in 1999. Relatedly, women's participation rates in pension plans are approaching or exceeding men's in most industries, although the ratio of pension benefit dollar levels between women and men approximates the wage gap prior to retirement. O'Rand and Henretta (1999: 23–27) report an occupational pension income gap of below .60 (female to male pension income ratio), which is only slightly lower than the wage gap of .62 between women and men aged fifty-five to sixty-four.

Women's increased relative economic independence has, in all likelihood, influenced their retirement timing relative to that of their husbands. Women's increased levels of early educational attainment over the post–World War II period have led to longer work attachment patterns and higher relative earnings and benefits across succeeding cohorts (F. Blau 1998). However, the level of inequality among women in educational, occupational, and earnings/benefits attainment is relatively high and increasing (Mitchell, Levine, and Phillips

1999). These inequalities constrain women's general advantage in the market and their relative independence as spouses in the retirement decision. Lower market positions (service sector employment, part-time work, smaller firms, lack of pension or health insurance coverage) differentiate women into less advantaged groups. The two latter groups are pressured by countervailing constraints: on the one hand, the high ratio of pre-retirement earnings to Social Security benefit (due to the redistributive properties of Social Security) tends to induce earlier retirement, especially in the absence of private pension cover-age. On the other hand, lower ratios of family resources to needs require sustained labor force attachments by older women (Mitchell, Levine, and Phillips 1999).

Finally, the relationships among gender, family resources, and late-life health trajectories differentially constrain women's retirement timing. Traditional family roles can affect the timing of women's retirement. Old and new demands for family caregiving beyond the middle years have converged in tandem with the structural changes noted above. Families are smaller, but the longevity of parents and the extended years of dependency by children are squeezing late middle-aged couples' financial and temporal resources. Older workers who are faced with limited health insurance options and sustained responsibility for children, grandchildren, siblings and/or parents alike are increasingly constrained in their retirement decisions by family-related demands (O'Rand, Henretta, and Krecker 1992). Husbands and wives face pressures to support spouses or other family members either by continuing to work or by exiting work to provide personal care.

Lower economic status in association with higher levels of physical and mental health limitations can also delay retirement or provoke returns to work after retirement for some spouses (Mutchler, Burr, Massagli, and Pienta 1999). Similarly, the severe decline in a spouse's health (usually husband's health first) constrains the partner to evaluate the relative costs of remaining in the workforce versus retiring to care for the spouse. In the latter context, eligibility for public or private health insurance with or without coverage of other family members or retirees strongly mediates the decision-making process (Blau and Gilleskie 1997). Able-bodied spouses may delay retirement in response to lost earnings by disabled spouses (Johnson and Favreault 2001) and to high out-of-pocket health-care costs (like those associated with medications) not covered by private or public insurance (Landerman, Fillenbaum, Pieper, Maddox, Gold, and Guralnik 1998).

In summary, major trends in the economic and family characteristics of older men and women are redirecting the attention of researchers to the dynamics of joint retirement for a growing portion of the older U.S. population—a portion that is relatively better off than single persons, but also highly heterogeneous along several dimensions, including income, retirement assets, and health. Women's changing market and family roles add complexity to the retirement transition. The task ahead involves a reconsideration of how to model the family or household retirement decision.

Spousal Bargaining or Joint-Role Investments

The traditional economic model of retirement is predicated on the individual (usually male) worker who "chooses" between work and leisure at the end of the work career based on the expected present value of future utilities associated with retirement at specific ages. The key variables in this decision are prospective retirement income from Social Security, pensions and wealth reserves, and health. For spouses (wives), the assumption is that they derive their retirement status from the primary household earner/retiree (husbands) and either retire jointly or before their husbands.

The trends outlined earlier are challenging these assumptions. Accordingly, alternative models are being presented by economists and sociologists. Economists are beginning to work with two different models. The "joint utility" or "unitary" model assumes that married couples share resources and incorporate each other's preferences in the decision to retire. As such, their relative employment opportunities and resources and their interdependent patterns of household consumption affect each other in a couple-based retirement decision (Lundberg 1999). The second, newer economic approach is attempting to model family decisions in "game-theoretic" terms that assume separate and noncooperative, as opposed to joint, interests of family members as factors in retirement. The latter approach has received little empirical attention.

Empirical research on couples' retirement repeatedly documents that they tend to retire together, that is, to retire as close in time to each other as possible following patterns of apparent cooperation or coordination (D. Blau 1998; Henretta, O'Rand, and Chan 1993). These findings suggest that above and beyond self-interests, couples share "preferences" that typically go unmeasured. Sociological models of retirement behavior offer some normative bases for joint retirement behavior that approach the measurement of "preferences." These models tend to consider the couple from a life-course perspective. Couples follow different work and marital careers that are distinguished by different pat-terns of investment in alternative family and market roles over the marriage. *Joint-role investments* in the labor market by couples, that is, similar patterns of attachment to work over the lifetime relative to attachments to family roles such as childbearing/rearing, should lead them: first, to prefer work over retirement and second, to prefer to remain at work or to retire at the same time. Couples in which both partners' work careers entitled them to retirement incomes from their own employment histories will jointly respond to institutional retirement schedules (Social Security eligibility ages).

Separate-role investments by couples in traditional marriages—which can include wives who never worked or wives who worked less extensively and continuously over the marriage or who carried higher childbearing/rearing responsibilities—lead to other predictions. Wives who never worked, by definition, "retire" with their husbands. Wives with truncated work histories, however, may or may not retire jointly depending upon their market resources. Wives with delayed entry into or interruption in full-time work are behind in pension vesting (or pension investing in the case of defined contribution plans) may follow their husbands (O'Rand and Henretta 1982). In addition, some studies have shown that women tend to be more invested in their jobs per se than men are, even though they may work fewer hours or earn less (Moen, Harris-Abbott, Lee, and Roehling 1999). Accordingly, wives may delay their retirements to later than their husbands' because of their attachments to their jobs as well as for family economic security.

In addition, spouses do not necessarily maintain a constant division of labor between market and household work over the course of the marriage. Marriages (families) are variably changing relations of interdependence over time that influence the shifting division of market and family work among spouses. The interdependence of younger couples raising children is different from that found among empty nest and retirement-aged couples with one spouse disabled or less able (unable) to work. This shifting interdependence probably mediates the joint or sequential patterns of retirement in couples. Given adequate family resources, wives retire to care for their husbands and sometimes for other family members both inside and outside the household (O'Rand, Henretta, and Krecker 1992). Alternative, late-life family responsibilities (i.e., caregiving demands inside and outside the household) may discourage early or joint retirement for couples with financial responsibilities related to caregiving, and, therefore, encourage sequential retirement timing.

Economic restructuring and the turbulent financial markets of the 1990s introduced new uncertainties for workers. Involuntary job mobility and labor exits increased across the occupational and industrial landscape and led to greater worker insecurity (Levy 1998). For some workers, particularly those who are younger, involuntary job change (or the fear of it) was not as "fateful" and often brought opportunities to gain new skills (Elman and O'Rand 2002). For older workers, "staying put" under conditions of economic uncertainty probably delayed retirement (Quinn 1999).

In sum, the analysis of couples' retirement behavior requires a conceptual framework that takes account of spouses' career characteristics and their changing interdependencies. Also, it must take account of the environment within which couples make decisions with fateful implications. Thus, the integration of labor-market and family-development theories suggests two major sets of hypotheses in the study of couples' retirement behavior:

Joint-Retirement Hypotheses: All else equal, couples will retire jointly (i.e., as close together in time as possible) when (1) they have the pension and health insurance resources to retire; and (2) one spouse requires caregiving from the other.

Sequential-Retirement Hypotheses: All else equal, husbands will retire before their wives when (1) they experience health limitations; (2) they are significantly older than their wives; and (3) their wives earnings-related resources are required by the household.

All else equal, wives will retire before their husbands when (1) they experience health limitations; and (2) they provide caregiving to spouses.

Data and Variables

The data come from the National Longitudinal Survey of Labor Market Experience (NLS) of Mature Women (born between 1923 and 1937) who were initially interviewed in 1967 and have been followed periodically until 1997. The NLS collects information on labor force status, job characteristics, education, work and family history on respondents and some information in these areas on their spouses. Between 1989 and 1997, the period over which these women can be observed in their retirement behaviors, more specific information was collected on health behaviors, benefit types, household assets, and caregiving in addition to detailed work histories. By 1989, nearly two-thirds of the original (1967) panel had been interviewed. For purposes of our examination, we selected all women who were working and married to workers in 1989, and who survive until the 1997 wave (excluding those who became widows over the observation period). Over the period, the NLS respondents were contacted four times: 1989, 1992, 1994, and 1997. This selection produced a sample size of 474 couples.

The distinctiveness and selectivity of this sample deserves special emphasis. These are Baby Boom cohort couples with wives who are relatively more attached to the labor force than is generally the case for earlier cohorts and for their own cohort. As such, with respect to work and career, they are probably more like younger cohorts of women today (Bianchi 1995); but, unlike younger cohorts, they had more children and interrupted their work careers more during childbearing years. Respondents selected for this analysis were initially employed and married in 1989; remained in the survey until 1997; and pro-vided complete information on the variables of interest.

Variables

The dependent variable is a polytomous outcome of competing risks that separates couples into four risk categories:

Both remain at work in 1997: those couples who are both still working in 1997 (74, or 16 percent);

Joint retirement: those who retire within twelve months of each other (157, or 33 percent);

Husband first: husbands who retire twelve or more months before their wives retire (153, or 32 percent);

Wife first: wives who retire twelve or more months before their husbands retire (90, or 19 percent).

Three sources of information are used to determine whether a respondent or spouse is retired: wives' self-reported retirement exits, husbands' retirement statuses, Social Security benefit receipt in observation years, and whether a respondent/spouse is sixty-five or older and out of the labor force, or repeatedly out of the labor force, after 1989.

Table 1 reports the descriptive statistics of the independent variables (means and standard deviations for the continuous variables and percentages for the dichotomous variables) for the whole sample and by retirement pattern. The major variables include wife's demographic characteristics in 1989 including her spouse's age, wife's work, pension and health insurance characteristics in 1989, and a set of variables measuring both spouses' health characteristics, as well as nonresidential household wealth, and wife's caregiving to spouse. Respondent's age and the experiences of health limitations and spousal caregiving are time-varying covariates in the final models, while the other variables are fixed at the first observation period. Age is measured as time-

varying to capture the timing of eligibility for Social Security (beginning at age sixty-two for reduced benefits and at age sixty-five for full benefits) and for Medicare (beginning at age sixty-five).

The pension variables come from respondents' identifications of their primary pension plans as *defined benefit* (DB) (i.e., estimated monthly benefits based on specific formulas linking years of service and highest earnings levels for which they are eligible until death); *defined contribution* (DC) (i.e., money accumulated in accounts that can be taken as lump sums and/or as annuities upon retirement but whose duration throughout the retired years before death depends on individual investment, savings and consumption patterns); or *both* (Mixed) (i.e., usually defined benefit plans mixed with supplementary defined contribution plans). DB and Mixed plans will be combined in one category for the analyses because they are primarily defined benefit plans and offer greater certainty about post-retirement income than do the DC plans. In Table 1, it is evident that 46 percent of all women are covered by pension plans, with the majority (38 percent) covered by DB or mixed plans.

The health insurance benefits variables come from respondents' statements that their health insurance coverage (if they have it) extends into retirement and comes either from their own employment or from their spouses' employment. In Table 1, it is evident that 39 percent of all women (couples) are covered by post-retirement health insurance, with women almost twice as likely as their spouses to have this coverage. These figures correlate well with the national rates of coverage reported by the U.S. Department of Labor (1998) reported earlier.

Results

The bivariate associations of specific retirement patterns with the major independent variables are consistent with expectations. Couples who remain at work between 1989 and 1997 are younger, closer in age to each other, and the most highly educated of the four groups. Importantly, wives in this group are more likely to be covered by DC plans than the other three groups and more than twice as likely as their husbands to be covered by post-retirement health insurance; both of these characteristics in the context of the 1990s appear to have been disincentives to retire. Finally, couples who continue working have significantly fewer nonresidential assets and fewer health limitations and needs for caregiving.

Alternatively, joint retirees are the oldest, next closest in age to each other, and next most highly educated. Wife's earnings are the highest on average in this group and their rate of coverage by DB plans, which are more highly associated with earlier retirement, is the highest at 43 percent. Health insurance coverage is lowest in this group of wives and thus does not operate as a strong disincentive to retire. Wives' health limitations are also highest in this group.

The sequential patterns, husband first and wife first, are associated most strongly with spousal age differences (husbands are 3.5 years older than their wives), wives' higher coverage by health insurance when compared to their husbands, and husbands' health limitations and greater caregiving needs. Wives who retire first are most differentiated by their higher rate of part-time employment, lower than average coverage by retirement health insurance, and higher average rate of health limitations.

Table 1

Descriptive Statistics of Variables by Couple Retirement Pattern in the Mature Women's Sample of the National Longitudinal Surveys (1989–1997)

Variable	All women	Husband and wife working 1997	Joint retirement	Husband first	Wife first
Wife's demographic characteristics in 1989					
Age (years)[a]	57.560	56.554	58.942	56.771	57.356
	(3.591)	(3.248)	(3.873)	(3.319)	(3.069)
Spouse's age in 1989	60.265	57.567	61.618	60.229	60.189
	(5.666)	(5.918)	(5.198)	(5.251)	(6.175)
Age difference (years)	2.698	1.013	2.675	3.457	2.833
Age difference between husband and wife	(4.577)	(5.038)	(4.119)	(4.456)	(4.849)
Race	0.160	0.081	0.165	0.189	0.167
1 = black; 0 = other					
Children (number)	3.502	3.540	3.401	3.908	2.956
	(2.165)	(1.852)	(2.041)	(2.553)	(1.754)
Educational attainment in 1989	12.556	13.135	12.675	12.333	12.233
Years completed	(2.526)	(2.253)	(2.560)	(2.705)	(2.298)
High school diploma	0.478	0.513	0.433	0.470	0.478
1 = completed twelve years of education					
College degree	0.164	0.216	0.159	0.170	0.122
1 = Completed sixteen or more years of education					
Wife's work characteristics in 1989					
Part-time employment	0.459	0.364	0.484	0.438	0.533
1 = less than thirty-five hours per week					
Tenure in current job	13.839	11.716	13.586	11.503	13.811
	(9.739)	(9.709)	(10.209)	(9.007)	(9.717)
Union membership	0.120	0.054	0.127	0.157	0.100
1 = union membership					
Earnings in 1988	12,795.55	12,419.38	13,435.05	12,136.63	13,104.20
Respondent's wages and salary (dollars)	(10,895.53)	(10,865.92)	(11,381.41)	(10,464.65)	(10,876.89)
Pension-defined benefit or mixed plan	0.381	0.297	0.433	0.366	0.389
1 = defined benefit or mixed pension coverage					
Pension-defined contribution	0.080	0.134	0.032	0.105	0.078
1 = defined contribution					
Wife's health insurance after retirement	0.245	0.486	0.070	0.333	0.200
1 = respondent has own health coverage (or also covers husband) after her retirement					
Husband's health insurance after retirement					
1 = husband has own health coverage (or also covers wife) after his retirement	0.141	0.203	0.134	0.150	0.089
Household/caregiving characteristics					
Nonresidential assets	0.687	.0824	0.694	0.621	0.677
1 = husband/wife own stocks and bonds					
Wife's health limitation[a]	0.274	0.203	0.337	0.235	0.289
1 = respondent's health limits her ability to work after 1989					
Husband's health limitation[a]	0.432	0.243	0.414	0.503	0.500
1 = husband's health limits his ability to work after 1989					
Caregiving to husband[a]	0.139	0.108	0.185	0.261	0.133
1 = respondent provided care to disabled or chronically ill spouse after 1989					
N =	474.000	74.000	157.000	153.000	90.000

[a]Time-varying covariates.

Maximum Likelihood Estimates of Couples' Retirement Patterns

The hazards analysis reported in Table 2 employs competing risks event history techniques, specifically proportional hazards models, to estimate the risks of joint and sequential retirement in a multivariate framework (Allison 1995). The general proportional hazards model is specified as:

$$\log h_{ij}(t) = \alpha_j(t) + \beta_j x_i(t), j = 1, \dots, 4$$

where $x_i(t)$ is a vector of covariates, some of which may be time-varying; β_j indicates that the effects of covariates may differ for alternative retirement pat-terns. The $a(t)$ function permits the hazard on time to vary across retirement type; the results of this component of the procedure will not be discussed here because of space limitations but are available from the authors on request.

For each type of retirement j (joint, husband first, or wife first), we define a separate hazard function, which estimates the conditional probability that retirement will occur between t (1989) and $t + \Delta t$ and the retirement is of a specific type (joint, husband first, or wife first) given that the person has not already retired by time t. As such, each separate function estimates rates of transition into a specific type of retirement and censors the alternative patterns. For example, the hazard function for joint retirement censors values for staying at work, husband retiring first and wife retiring first, and so on. The hazard coefficients are reported as hazard ratios. Ratios have values that range between 0 and greater than 1. Values below 1 represent negative effects; values above 1 represent positive effects. Values that approach 1 represent lower relative effects. Risk ratios can be interpreted as factor or percentage changes in the dependent variable for each unit or categorical change in the independent variable.

Joint retirement, economic advantage, and wives' health limitations.
Table 2 reports results that strongly support the joint-retirement hypotheses. First, couples retire jointly in response to eligibility for Social Security benefits, which is evident in the highly significant effects of turning sixty-two and then turning sixty-five. Remember the joint-retirement couples are older, closer in age than the sequentially retiring couples, and include wives with defined benefit pensions that are typically tied to institutional schedules. Also, following the hypotheses drawn from the literature, wives' health limitations increase their rates of retirement with their husbands after age sixty-two and even more rapidly after age sixty-five when they are eligible for Medicare benefits. The only factor that slows joint-retirement patterns among wives is their coverage by health insurance from their own employment, which may reflect the absence of coverage of their husbands following retirement.

Sequential retirement, economic need, and husbands' health limitations.
The sequential retirement hypotheses receive general support, but reveal complex patterns of couple interdependency. All else equal, husbands retire before their wives when they are older and require caregiving in the home and when their wives earn less than average but are attached to workplace positions that traditionally signal job security for them (i.e., union membership). In addition, wives are significantly less likely to retire first if they or their husbands are covered by health insurance and their husbands require caregiving in the home (see columns 1 and 3 of Table 2). While husbands' health limitations can increase wives' withdrawal from work, it is clear that wives respond with two opposite patterns depending on a complex (and largely unmeasured) set of contingencies. Husband's health limitations and husband's need for caregiving are different stimuli for wives' retirement responses.

The husband-first pattern is the second most likely pattern after joint retirement, a result found by other studies of retirement in the 1990s in the United States (e.g., Johnson and Favreault 2001; Moen et al. 1999). Wives remain at work after their husbands' retirements for reasons of both economic need and job attachment, even when their husbands require caregiving in the house-hold. Traditional economic models of retirement cannot account for this pattern.

The overall pattern of results suggests that the most income-advantaged couples retire together, while those with needs for earnings and/or health insurance coverage to handle caregiving needs (especially for the husband) may be discouraged from simultaneous exit from work.

Table 2

Maximum Likelihood Estimates of Couple Retirement Patterns: Hazard Ratios of Effects on Joint and Sequential Retirement

Variables[a]	Husband retires first	Joint retirement	Wife retires first
Wife's demographic characteristics			
Turns sixty-two, sixty-three, sixty-four after 1989[b]	0.923	1.536*	1.062
Turns sixty-five after 1989[b]	0.734	2.402***	0.805
Spouses' age difference	1.047*	1.009	1.008
Number of children	1.071**	0.970	0.830**
Wife's work characteristics in 1989			
Union membership	1.712*	1.257	0.938
Earnings in 1988 (logged)	0.943*	1.036	1.038
Pension-defined benefit or mixed plan	1.198	1.492*	1.204
Pension-defined contribution	1.028	0.466	0.609
Couples' health insurance			
Wife's health insurance after retirement	0.894	0.134***	0.381**
Husband's health insurance after retirement	0.925	0.747	0.457*
Household assets and health characteristics			
Nonresidential assets	0.690	0.853	0.756
Wife's health limitation[b]	0.949	1.565*	1.107
Husband's health limitation[b]	1.076	0.743	1.747*
Caregiving to husband[b]	2.225***	0.603	0.421*
Model fit			
−2 log likelihood	960.264	1,464.323	610.304
Chi square (df)	46.479(18)***	101.427(18)***	50.089(18)***
N =	474	474	474

[a]Variables controlled for but not reported in these models include race, education, part-time employment, and tenure on job in 1989.
[b]Time varying covariates.
*$p < .05$; **$p < .01$; ***$p < .001$

Conclusions

The dynamics of couple retirement are complex. Traditional retirement patterns are changing as wives approach retirement with their own market resources and as the division of household labor is influenced by spousal caregiving in later life. Pension and health insurance are among the new resources that women bring to the retirement decision. Over the 1990s, these resources may have become disincentives for women to retire early or jointly with husbands. Traditional defined benefit pensions are highly associated with early retirement and encourage joint retirement patterns among women covered by these pensions. However, defined contribution plans, which comprise the type of pension that is more widely offered to younger cohorts of men and women, will probably not have the same effect. Downward fluctuations of retirement accounts during economic downturns generate considerable insecurity among older workers who fear that job exits will become irreversible and fateful transitions with uncertain long-term implications.

The decline in employer-provided health insurance coverage of retirees is another trend that is introducing greater uncertainty for older workers about the future continuation and/or premium costs of coverage. This uncertainty creates disincentives to exit from jobs prior to Medicare coverage at age sixty-five, even when current coverage promises continuation into retirement. Out-of-pocket health expenses and the loss of earnings by retired husbands appear to discourage women from retiring ahead of, or jointly with, their husbands.

The results emanating from studies of joint retirement over the 1990s will require the collection of more symmetrical data on spouses. The joint and separate interests of spouses have to be taken into account as simultaneously as possible. Databases must plan for the collection of equivalent information on both spouses' current characteristics and retrospective work and family careers. This study is limited by the asymmetry of information on husbands and wives and the lack of enough specific data on the retirement decision-making process.

Finally, comparisons of these patterns across countries and across economic cycles are long overdue. Theory development is not possible without strong comparison across space and time. U.S. patterns of retirement in the house-hold context are changing. Couples' joint market work histories are influencing their individual and joint prospects for retirement timing. Concurrently, changes in the division of labor among married couples are different across countries and welfare regimes. Furthermore, the growing privatization of retirement savings regimes and health insurance systems is adding uncertainty to the household retirement decision process. Direct comparisons across social contexts are required to improve theories of retirement.

References
Allison, Paul D. 1995. *Survival Analysis Using the SAS System: A Practical Guide*. Cary, NC: SAS Institute.
Bennefield, Robert L. 1998a. "Dynamics of Economic Well-Being: Health Insurance, 1993–1995. Who Loses Coverage and for How Long?" *Current Population Reports, Household Studies P70–64*. Census Bureau, U.S. Department of Commerce.
———. 1998b. "Health Insurance Coverage: 1997." *Current Population Reports, Consumer Income P60–202*. Census Bureau, U.S. Department of Commerce. Blau, David M. 1998. "Labor Force Dynamics of Older Married Couples." *Journal of Labor Economics* 16, no. 3: 595–629.
Blau, David M., and Donna Gilleskie. 1997. "Retiree Health Insurance and Labor Force Behavior of Older Men in the 1990s." *NBER Working Paper No. 5948*. Cambridge, MA: National Bureau of Economic Research.
Blau, Francine D. 1998. "Trends in the Well-Being of American Women, 1970– 1995." *Journal of Economic Literature* 36: 112–65.
Bianchi, Suzanne M. 1995. "Changing Economic Roles of Women and Men." In *State of the Union: America in the 1990s*. Vol. 1, *Economic Trends*, ed. Reynolds Farley. New York: Russell Sage Foundation.
Clark, Robert L., and Joseph F. Quinn. 1999. "The Economic Status of the Elderly." *Medicare Brief No. 4*. Washington, DC: National Academy of Social Insurance.
Crimmins, Eileen M.; Yasuhiko Saito; and Dominique Ingegneri. 1997. "Trends in Disability-Free Life Expectancy in the United States, 1970–90." *Population and Development Review* 23: 555–72.
Elman, Cheryl, and Angela M. O'Rand. 2002. "Perceived Labor Market Insecurity of Older Workers and Entry into Work-related Education and Training." *Social Science Research* 31: 49–76.
Federal Interagency Forum on Aging-Related Statistics. 200 1. "Older Americans 2000: Key Indicators of Well-Being." Hyattsville, MD. www.agingstats.gov.
Henretta, John C.; Angela M. O'Rand; and Christopher G. Chan. 1993. "Joint Role Investments and Synchronization of Retirement: A Sequential Approach to Couples' Retirement Timing." *Social Forces* 71: 981–1000.
Johnson, Richard W., and Melissa M. Favreault. 2001. "Retiring Together or Working Alone: The Impact of Spousal Employment and Disability on Retirement Decisions." *CRR Working Paper 2001–01*. Chestnut Hill, MA: Center for Retirement Research at Boston College. www.bc.edu/crr.
Kapur, Kanika. 1998. "The Impact of Health on Job Mobility." *Industrial and Labor Relations Review* 51: 282–98.
Landerman, Richard L.; Gerda G. Fillenbaum; Carl F. Pieper; George L. Maddox; Deborah T. Gold; and Jack M. Guralnik. 1998. "Private Health Insurance Coverage and Disability Among Older Americans." *Journal of Gerontology-Social Sciences* 53B: S258–S266.
Levine, Phillip B., and Olivia S. Mitchell. 1993. "Expected Changes in the Workforce and Implications for Labor Markets." In *Demography and Retirement: The Twenty - first Century*, ed. Anna M. Rappaport and Sylvester J. Scheiber, 73–96. New York: Praeger.

Levy, Frank. 1998. *The New Dollars and Dreams*. New York: Russell Sage Foundation.

Lundberg, Shelly J. 1999. "Family Bargaining and Retirement Behavior." In *Behavioral Dimensions of Retirement Economics*, ed. Henry Aaron. Washington, DC:Russell Sage/Brookings.

Manton, Kenneth G.; Eric Stallard; and Larry Corder. 1997. "Changes in the Age Dependence of Mortality and Disability: Cohort and Other Determinants." *Demography* 34: 135–58.

Mitchell, Olivia S.; Philip B. Levine; and John W. Phillips. 1999. "The Impact of Pay Inequality, Occupational Segregation, and Lifetime Work Experience on the Retirement Income of Women and Minorities." *AARP Public Policy Institute Paper No. 9910*. Washington, DC: American Association of Retired Persons.

Moen, P.; D. Harris-Abbott; S. Lee; and P. Roehling. 1999. *The Cornell Couples and Careers Study*. Cornell Employment and Family Careers Institute. Ithaca, NY: Cornell University.

Mutchler, Jan E.; Jeffry A. Burr; Michael P. Massagli; and Amy Pienta. 1999. "Work Transitions and Health in Later Life." *Journal of Gerontology-Social Sciences* 54B: S252–S261.

O'Rand, A.M. 2000. "Risk, Rationality, and Modernity: Social Policy and the Aging Self." In *Societal Impact on the Aging Self*, ed. K. Warner Schaie and Jon Hendricks, 225–49. New York: Springer.

O'Rand, Angela M., and John C. Henretta. 1982. "Delayed Career Entry, Indus-trial Pension Structure, and Early Retirement in a Cohort of Unmarried Women." *American Sociological Review* 47: 365–73.

———. 1999. *Age and Inequality: Diverse Pathways Through Later Life*. Boulder, CO: Westview Press.

O'Rand, Angela M.; John C. Henretta; and Margaret L. Krecker. 1992. "Family Pathways to Retirement: Early and Late-Life Family Effects on Couples' Work Exit Patterns." In *Families and Retirement: Conceptual and Methodological Issues*, ed. Maximiliane Szinovacz, David J. Ekerdt, and Barbara Vinick, 81– 98. Beverly Hills, CA: Sage.

Quinn, Joseph F. 1997. "Retirement Trends and Patterns in the 1990s: The End of an Era?" *Public Policy and Aging Report* 8: 10–15.

———. 1999. "Retirement Patterns and Bridge Jobs in the 1990s." *Issue Brief No. 206*. Washington, DC: Employee Benefits Research Institute.

Shelton, Barbara A., and Deborah John. 1996. "The Division of Household Labor." *Annual Review of Sociology* 22: 299–322.

Smith, James. 1997. "The Changing Economic Circumstances of the Elderly: Income Wealth and Social Security." *Policy Brief No. 8*, Syracuse University, Maxwell School of Public Policy.

U.S. Department of Labor. 1998. *Retirement Benefits of American Workers: New Findings from the September 1997 Current Population Survey*. Washington, DC: USGPO.

U.S. Social Security Administration. 2000. *Annual Statistical Supplement to the Social Security Bulletin*. Washington, DC: USGPO.