Is Phased Retirement A State Of Mind?
The Role Of Individual Preferences In Retirement Outcomes

John C. Scott, JD, MA
Graduate Student
Department of Sociology
Cornell University
Email: jcs86@cornell.edu

Presented at the Annual Meeting of the Population Association of America
April 3, 2004
Boston, Massachusetts

I. Introduction

Like most other countries of the world, the workforce of the United States is aging and will continue to age, a prospect contrary to historical trends. This increase in labor force participation by older Americans may not be due to just general population aging. Reasons motivating increased work by the aged may include greater economic opportunity, increased income insecurity, a steady upward trend in female employment, improvements in health, increasing prevalence of defined contribution plans, and increased educational attainment for successive cohorts of older Americans. In addition, work may provide social and psychological benefits that retirement cannot, and some individuals may not value leisure as highly as they do employment. A desire for continued employment by an older individual, however, may not equate to a wish to work full-time. Some employees are able to modify full-time status in some fashion in order to "phase down" their career employment as they approach full retirement.[1] Workers who cannot engage in phased retirement often "retire" and find part-time work with a different employer. Such phased, partial, or gradual retirement arrangements are today relatively infrequent as formal or broad-based programs (Hutchens 2003), but there is some evidence that more employers may implement such programs in the future (Watson Wyatt 1999, Ehrenberg 2001) due to significant legal, institutional and cultural barriers (Chen and Scott 2003).

This paper examines phased retirement from a variety of perspectives. Interest in the policy implications of encouraging phased retirement have sparked a need to address certain key issues including whether phased retirees are significantly different from those persons who do not engage in phased retirement. Moreover, does phased retirement extend the work life or hasten early exit? What are the employee characteristics associated with phased retirement? Do attitudes towards work and retirement influence phased retirement? This study attempts to address these questions through the use of a large, longitudinal survey of older workers and in particular takes into account employee attitudes towards work and leisure.

[1] Such arrangements have a variety of titles, including phased, partial and gradual retirement. In some studies, 'phased retirement' has referred to arrangements in which the worker gradually reduces work within a career job while 'partial retirement' has been used to refer to a reduction in work outside of a career job. For the purposes of this paper, phased retirement will be used to describe reductions in work generally.

II. Background

An aging society and changes in the institutions that influence workforce behavior mean that the American workforce is also aging. The median age of workers increased from 35 years of age in 1976 to almost 41 years of age in 2000 (Fullerton and Toosi 2001). While labor force participation of older Americans have declined over the latter half of the 20th Century, there are indications that this trend is reversing. For those aged 55 to 64, civilian labor force participation rates fluctuated from 56.7 percent in 1950 to a high of 61.8 percent in 1970 to a low of 55.7 in 1980 before resuming an upward trend to 59.3 percent in 1998. This upward trend is projected to increase to 64.8 percent by 2015.

This extension of working life, which is a disjointed process happening in fits and starts, is changing norms for the transition to retirement and the very idea of retirement. The idea of a set or standard retirement age has disintegrated or atomized into a wide variety of practices (Wiatrowski 2001). There are indications that the prevalence of 'bridge jobs' is increasing. Whether voluntarily or involuntarily, many older individuals continue working with an employer different from their career employer after they have "retired" from the career job (Quinn and Kozy 1996).

Moreover, flexibility in workplace schedules is increasingly common, and such flexibility may aid future development of phased retirement. According to the Bureau of Labor Statistics, 29 percent of full-time wage and salary workers age 20 and older have flexible work schedules. Twenty-six percent of workers between the ages of 55 and 64 have flexibility in setting work hours, and this percentage increases to 31 percent for the 65 and older age group (U.S. Department of Labor 2002: Table 1).

Arising concurrently with these changes has been renewed public policy and private sector interest in phased retirement (Purcell 2000). There is not one definition of phased retirement, but instead the term indicates a process of reducing one's active working life in favor of increased amount of time spent in leisure or retirement. Phased retirement implies a blending of work and leisure as well as a transition to retirement that stands in contrast to the abrupt and complete retirement at a specified age. Today, formal phased retirement programs are small but growing. One survey of private sector employers found that sixteen percent provide a formal phased retirement program with an additional forty percent interested in initiating a program (Watson Wyatt 1999).

III. Literature Review

The following discussion of the research literature begins with a summary of the determinants of continued labor force participation by older workers and then continues with a discussion of the definition and measurement of partial retirement (as opposed to phased retirement), how different definitions produced different partial retirement outcomes, and a review of studies that explored phased retirement programs in practice.

A. Determinants of Continued Labor Force Participation by Older Workers

Ascribed characteristics are thought to have an effect on the retirement patterns and workforce participation of older workers. Increasing age contributes to the decision to retire (Reitzes, Mutran and Fernandez 1998). The effects of different factors such as education, health, and income vary by race, age and gender (Williamson and McNamara 2001). Black, Hispanic, and female elderly persons experience more involuntary job separation in the years prior to retirement, and the resulting periods of joblessness often eventuate in "retirement" or labor force withdrawal (Flippen and Tienda 2001). Men with non-repetitive jobs are more likely to continue working than women, and the presence of children in the home is more likely to lead to continued work for women than for men (Reitzes, Mutran and Fernandez 1998).

Human capital attributes of individuals are significant factors in predicting continued labor force participation of older Americans. Generally, the most educated individuals are most likely to be working in old age (Haider and Loughran 2001). The negative effect on labor force participation of low educational attainment is found to be stronger for women than for men and stronger for blacks than for non-blacks (Williamson and McNamara 2001).

Occupational characteristics also influence retirement decisions. There are three categories of job characteristics, and these are physical and mental requirements of a position, job flexibility including employer accommodation to older workers, and financial aspects such as access to pension plans and health insurance. There is some division over the effects of physical demands of a job (Dwyer 2001; Hayward, Grady, Hardy and Sommers 1989). Mental job requirements have a small influence on prospective retirement, but job flexibility and financial aspects of employment have been found to be

major determinants (Dwyer 2001, Williamson and McNamara 2001, Reitzes, Mutran and Fernandez 1998, Hurd and McGarry 1993). Other work conditions, such as variety in the tasks to be performed on the job, have also been found to influence significantly job turnover outcomes (Mueller, Boyer, Price and Iverson 1994).

Employee benefits programs such as Social Security and employer-sponsored pension plans provide a substantial incentive to retire, but the effects are not uniform. Research has shown Social Security to be a major contributor to the decline in labor force participation rates beginning in the 1950s and extending through the 1980s (Henretta and Lee 1996, Stewart 1995, Pampel and Weiss 1983). However, changes in private pension plans generally have a more substantial impact on retirement decisions of individual employees than changes to the Social Security system (Blau 1994, Lumsdaine, Stock, and Wise 1994, Stock and Wise 1990). Workers with defined contribution plans generally retire two years later than similar workers with defined benefit pension plans (Friedberg and Webb 2000) and are more likely to participate in phased retirement programs (Ehrenberg 2001). The availability of health insurance in retirement is also an important predictor of retirement, and employer-provided health insurance helps to keep people in the labor force (Dwyer 2001), and it may interact with the availability of private pensions in affecting retirement decisions (Wise 1997).

Personal income and wealth are also important factors, but again the effects are varied. Higher private wealth in the form of increased home ownership is a major explanation for the historical decline in labor force participation of older, male workers (Costa 1998), but declines in personal saving cannot explain the trend toward earlier departure from the labor force (Wise 1997). Recent studies have shown that the wealthiest individuals are more likely to be working in old age even though individual incomes may decline for those older workers who continue to work. The combination of declining wages and increased hours flexibility suggest that some elderly purchase job or hours flexibility at the cost of lower income (Haider and Loughran 2001).

Spousal relationships and family structure also influence the retirement decision. Early models of families and retirement were built along highly gender-differentiated roles combined with the direct influences of pensions and health factors with little or no allowance for spousal interaction, but later models may consider interactions between spousal health and work status (Henretta, O'Rand and Chan 1993). Family structure in terms of family size may influence continued employment at older ages. The

propensity to retire was found to be inversely related to the number of children present in the household, which may in turn reflect financial pressures caused by a large number of dependents (Reitzes, Mutran and Fernandez 1998).

Personal health is also an important factor in explaining retirement transitions, but its magnitudes are small when expectations are taken into account. Generally, healthier individuals tend to continue working in old age (Haider and Loughran 2001, Quinn, Burkhauser, Cahill and Weathers 1998). Conversely, negative health shocks plays a most significant role in retirement decisions (Reitzes, Mutran and Fernandez 1998, Dwyer 2001, Haider and Loughran 2001).

B. Attitudes Towards Work And Leisure

One goal of this paper will be to examine how individual attitudes towards work and leisure affect retirement outcomes. While subjective variables, such as attitudes towards work or levels of job satisfaction, should be treated with care, the answers to questions about how people view their work convey useful information about economic life (Mueller and Price 1990, Freeman 1978). There have been a number of studies that have examined intentions to retire, attachment to work and job satisfaction. Some have examined workers' expectations or plans for retirement and have found that such expectations are positively linked to retirement outcomes (Honig1996, Lillard and Willis 2001). However, there appears to be relative instability of intentions to pursue more complex paths to retirement such as through partial retirement (Ekerdt, DeViney and Kosloski 1996). Individuals who are more work-oriented or who have higher work satisfaction throughout their life course are more likely to work further into old age (Jackson and Taylor 1994, Reitzes, Mutran and Fernandez 1998).

Other studies looking at worker attitudes have explored the relationships among age, tenure, job satisfaction and turnover. Generally, studies have found that there is a positive correlation between age and reported job satisfaction, but the reasons for such a relationship remain unclear. Increasing job satisfaction over time could be due to age effects (workers tend to change jobs until they find ones they like), cohort effects (younger people facing opportunities that are less than expected would have lower relative job satisfaction) or compositional effects (those who respond to such surveys at older ages are those who survive and continue working into old age) (Clark, Oswald and Warr 1996, Glenn and Weaver 1985). While a covariant of age, tenure is distinctly related to job satisfaction, and tenure has

been found to be a more consistent predictor of job satisfaction than age (Bedeian, Ferris and Kacmar 1992). Age and tenure operate indirectly through job satisfaction to influence turnover (Dalessio, Silverman and Schuck 1986).

One study that examined nurses in the British National Health Service found that nurses who report overall dissatisfaction with their jobs have a 65 percent higher probability of intending to quit than those reporting to be satisfied. Specifically, dissatisfaction with promotion and training opportunities were reported to have a stronger impact on intentions to quit than dissatisfactions with workload or pay (Shields and Ward 2000). Another study found that variety in the tasks performed, co-worker relations, financial rewards, and age all have significant positive effects on job satisfaction. In turn, job satisfaction has the largest direct impact on the turnover intent of a worker (Lambert, Hogan and Barton 2001). In addition, age discrimination may affect transitions to retirement.[2] In a study using self-reported age discrimination, workers who experience age discrimination are much more likely to separate from their employer and less likely to remain employed (Johnson and Neumark 1997).

[2] However, analysts have difficulty sorting out age discriminatory practices from the nondiscriminatory replacement of older workers by younger workers (Bessy and Ananda 1991).

C. Defining and Measuring Partial Retirement

"The definition of part time is arbitrary." (Quinn and Kozy 1996: 366.) Indeed, there is a fair amount of variability in the definitions of partial retirement or part-time work used in the studies discussed below, and any definition is likely to miss an aspect of the workforce patterns that could be characterized as partial retirement (it should be noted that these studies generally do not distinguish between phased and partial retirement). First, labor force participation rates are a widely used gauge of continued involvement in the workplace by older individuals (Quinn 1999, Fullerton 1999, Fullerton and Toosi 2001). But some argue that labor force participation rates are poor indicators of the work-to-retirement transition. At any one point in time, the observed labor force rate for an older age group is the product of older persons exiting and entering the workforce such that there is not a unidirectional flow of persons from work to retirement. Other measures are needed to assess changes in retirement outcomes (Hayward, Crimmins and Wray 1994).

Another conceptual issue is the value of self-reporting versus an objective standard such as hours worked or earnings from the job. It is fairly clear that self-reports of retirement status can differ substantially from objective measures (Honig and Hanoch 1986, Ruhm 1990, Gustman and Steinmeier 2000; but see note 7 of Gustman and Steinmeier 1984). Obviously, perception can differ from outward action. "Many who report themselves partially retired have observed earnings at or near previous levels, and many with substantially reduced earnings consider themselves either fully employed or fully retired." (Honig and Hanoch 1985: 23.) Thus, self-reports by themselves may not be particularly helpful in pinpointing older workers in a stage of partial retirement.

However, purely objective measures may not be completely satisfactory if the definition is too narrow. For example, if partial retirement is defined as a 40 percent reduction in either wages or hours from the levels of the lifetime job, a worker whose hourly wage and hours worked each decline by 35 percent, thereby causing a reduction in earnings of nearly 60 percent, would nonetheless be classified as fully employed (Honig and Hanoch 1985). Another objective measure that could come up short is changing from a career job, however defined, to another job. Such a definition of partial retirement would miss the fact that partial retirement can occur on the main career job, either by reductions in hours and wages or by a shift to less stressful or demanding work (Honig and Hanoch 1985, Watson Wyatt 1999).

There is also a desire to capture reductions in workforce participation that are voluntary in nature. The difficulty of purely objective measures, e.g. earnings that fall below 50 percent of maximum career earnings, is that they would include involuntary reductions in hours or wages. "This is especially problematic if older workers have exceptional difficulties obtaining comparable employment following job displacement." (Ruhm 1990: 499). The utility of self-reported status, then, is that it provides a signal of the individual's intention, and some of the studies described below use a definition of partial retirement that combines self-reported status with an objective measure (Ruhm 1990).[3]

There is a small body of research on various aspects of phased retirement. Gustman and Steinmeier conducted one of the first empirical investigations into what they termed partial retirement. Using the first four waves of the Social Security Administration's Retirement History Study (RHS), a longitudinal survey of men aged 58 to 63 when initially surveyed in 1969, they used a retirement equation to show that a dichotomous outcome (retired, not retired) was not appropriate for predicting retirement behavior (Gustman and Steinmeier 1984).

Earnings are another method of defining partial retirement. Honig and Hanoch, using the first three waves of the RHS and excluding those who did not respond in all three waves, defined 'partial retirement' based on the ratio of an individual's current earnings to maximum earnings earned over the career (Honig and Hanoch 1985). Studies have also viewed partial retirement as a function of hours worked per year or per week (Quinn and Kozy 1996, Gustman and Steinmeier 2000, Haider and Loughran 2001) and in terms of job tenure (Gustman and Steinmeier 2000).

A blended approach was used by Ruhm (1990), who was concerned that involuntary reductions in hours or wages might cause an erroneous classification of partial or full retirement. In his study, partial retirement is defined as (1) annual earnings greater than $500 and the respondent classifies himself or herself as retired, or (2) annual earnings are between $500 and $2,000 and the self-report status is not retired.

[3] For example, Gustman and Steinmeier defined a person to be partially retired if either (a) the respondent worked at a prior job with 35 hours or more of employment per week, self-reported as not retired and current hours are less than 35 hours; or (b) respondent claims to be partially retired and has been unemployed less than 12 months (Gustman and Steinmeier 2001). Unlike their 2000 study, which sought to provide an overview of retirement outcomes, Gustman and Steinmeier's 2001 study did not provide an estimate of the prevalence of partial retirement. The definition of partial retirement was used instead to evaluate reduced form retirement and wealth equations.

A table summarizing the literature on phased retirement definitions and the outcomes is shown below:

Table 1: Comparison of Partial Retirement Definitions

Author(s) (Year)	Definition of Partial Retirement	Partial Retirement Findings (Sample %)
Gustman & Steinmeier (1984)	Self-Reported Status	33% ("at some point")
Honig & Hanoch (1985)	Earnings < 50% Max Career Earnings	19.7%
Ruhm (1990)	Earnings and Self-Reported Status	Over 50% ("at some point")
Quinn and Kozy (1996)	Less than 1,600 Hours Annually	14% of Men and 29% of Women
Gustman & Steinmeier (2000)	Self-Reported Status	6.6% to 12.9%
	Usual hours worked per week	7.6% to 10.2%
	Usual hours worked per year	8.6% to 10.9%
	By leaving 10+ year job	22.7% to 26.0%
	By leaving 20+ year job	19.1% to 23.8%
	By hourly wage	10.1% to 12.6%
	By weekly earnings	11.7% to 15.6%
Haider & Loughran (2001)	Less than 1,750 Hours Annually	From 22% for 50 to 58 year-olds to 72% for those over age 80

Some work has explored employee interaction with phased retirement. Generally, employees who are contemplating retirement generally respond favorably to the option of phased retirement. In a study of university faculty to the introduction of a phased retirement program, the overall rate of workers leaving full-time employment increased significantly, but there was only a small increase in the rate of those entering complete retirement. Based on observable characteristics such as age, salary, years of service, and job characteristics, employees entering a formal phased retirement program offered by an employer more closely resemble those remaining in full-time jobs than those entering full retirement. The probability of entering into a phased retirement path is also related to job performance, work load and when maximization of pension income occurs (Allen, Clark and Ghent 2000).[4]

[4] Older results have shown a mixed response. In a survey of employees in a state public school system, 44 percent of respondents indicated that they would consider delaying full retirement if a phased retirement option were made available

IV. Study Methodology

Conceptual Framework – This study examines active workers over eight years (less attritors) in terms of actual retirement and work outcomes. This analysis generally is focused on outcomes for wage-and-salary workers, but self-employed persons will also be considered to an extent as discussed below. The study is interested in several issues. One issue is phased retirement itself – What does it look like and how does it change over time? Similarly, what are the variables (individual, household, employment-related) that are associated with phased retirement? Another issue concerns whether phased retirement extends the work life or induces early exit. Finally, are there any financial effects associated with phased retirement? The variables are constructed and the methodology is designed, as discussed below, with these issues in mind.

Data Set: This study is based on five waves – 1992 through 2000 – of the Health and Retirement Study (HRS). The HRS is a nationally representative sample of persons aged 51 to 61 in 1992 and their spouses or partners. The survey is longitudinal in nature, with the baseline interview conducted in 1992 and subsequent waves every two years, and it collects extensive information regarding employment, pension, health, family structure, and income and wealth characteristics of age-eligible respondents and their spouses or partners.

Because this study will examine the retirement patterns for those already working, the study restricts the analysis to age-eligible respondents who were full-time employees working 35 or more hours per week in 1992. Of the total 12,654 respondents, 8,003 responded that they were currently working in 1992. Both self-employed persons and respondents working for someone else are included. Only those working at least 35 hours a week are considered full-time. The definition of full-time status is based on the report of hours worked per week in the respondent's current job. Attritors and others who declined to answer questions that formed the basis of the dependent variables were dropped from the analysis. With these definitions, the dataset consists of 5,571 observations, 4,721 of which were wage-and-salary workers in 1992. Means and percentages for the variables are presented in Table 3.

(Bartle 1989). Other studies conducted prior to 1990 found that employee responses to phased retirement could be mixed (Bertelsen 1983, Berry 1990).

Dependent Variables – Definition of Work and Retirement Outcomes and Phased Retirement – The dependent variable consists of measures for work-retirement outcomes. Work-retirement status is viewed through a combination of two different definitions of a respondent's status. First, there is a self-reported measure of retirement status. Each wave of the HRS asks if the respondent considers herself to be completely retired, partly retired or not retired at all. A second definition looks at the change in annual hours worked from one wave to the next. The dependent variable combines these two definitions to form a composite definition of work-retirement outcomes. Specifically, the second definition first incorporates changes in annual hours worked from 1992 to the wave in question. Working full-time will be indicated if the respondent reports full-time work and there is less than a 15 percent change in annual hours worked. Partial/phased retirement will be indicated by (a) self-report of full-time work with more than a 15 percent reduction in annual hours, (b) self-report of partial retirement combined with any work for pay or (c) self-report of retirement combined with any work for pay. Full retirement only occurs if there are no hours worked for pay in that wave. This is the primary definition of work-retirement status used in this paper.

The following Table 2 provides an overview of how the change in annual hours worked affects the retirement outcome:

Table 2 - Work-Retirement Status Definition Matrix

Wave-to-Wave Annual Hours Differences	Self-Reported Status in Each Wave: Completely Retired	Partly Retired	Not Retired	NA
Increase	PR	PR	WFT	WFT
No Change	PR	PR	WFT	WFT
Up to 15% Decrease	PR	PR	WFT	WFT
15% to 99% Decrease	PR	PR	PR	PR
Complete Decrease	FR	FR	FR	FR

key: PR = partial or phased retirement, WFT = working full-time, FR = full retirement

Whether one is a phased retiree (those who were still working for the same employer in 1994-2000 as in 1992) or a partial retiree (those working part-time for an employer that is different than the one in 1992) is determined by using the questions of whether the respondent works for the same employer as in the prior wave. An answer of 'no' to the question in any wave indicates that the respondent is partly retired in a different job in that wave. Thus, work-retirement status can have four outcomes – working full-

time, phased retired, partly retired and fully retired, and the descriptive statistics in Table 3 below provide an overview of these status groupings.

However, because it is possible for a respondent to be categorized in more than one work-retirement outcome over the eight year period, the survival and regression analyses on whether the respondent has achieved phased retirement status (as defined above) at any time during the survey. If so, the respondent is categorized as a phased retiree. (Specifically, a dummy variable is created such that phased retirement = "1" if the respondent is a phased retiree and "0" if she is not a phased retiree.)

Independent Variables – The independent variables include various measures that are designed to capture individual ascribed, human capital, family, workplace and attitudinal characteristics as of 1992. Specifically, the independent variables are as follows:[5]

- Age
- Race
- Gender
- Educational attainment
- Marital/partnered status
- Number of children living at home
- Health
- Household wealth
- Job tenure
- Occupational skill level
- Managerial status
- Whether respondent's job is repetitive
- Access to retirement plan at work
- Access to retiree health insurance benefits
- Years to retirement for respondent's job
- Whether work is important in and of itself or just for the money
- Whether respondent would keep working even if money were not needed

[5] A more detailed description of the independent variables is provided in the appendix.

- Perception of age bias at work

Research Methods – There are four principal research methods used in this paper. One is comparison of group means of proportions in order to determine whether there are statistically significant differences in characteristics between those respondents who become phased retirees and those who do not become phased retirees. The SAS PROC TTEST is used for this analysis.

The second research method is estimating survival estimates. First using SAS PROC LIFETEST, survival and hazard functions are developed for both wage-and-salary workers and self-employed persons. The purpose of the life table analysis is to determine whether phased retirement results in phased retirees attaining full retirement status sooner or later than non-phased retirees. In addition, the life table method will perform a preliminary examination of the explanatory variables, the most significant of which are included in a Cox proportional hazards regression analysis.

Third, a series of binomial logistic regressions will be used to determine the relationships between the 1992 independent variables and work-retirement outcomes for workers in 1996. In logistic regression, a model is fit to a binomial dependent variable using maximum likelihood estimates. The binomial logistic regression is used because the retirement outcome (phased retiree or not a phased retiree) is binary. All regressions use unweighted data. PROC LOGISTIC in SAS was used to run the analyses.

Fourth, I explore the financial implications of phased retirement. Using ordinary least squares regression, this study regresses the change in total household income from 1992 to 2000 on a set of independent variables, including phased retirement status. In addition, wealth and income in 2000 will also be assessed for effects from phased retirement status.

V. Results and Analysis

A. Descriptive Statistics

This section provides an overview of the sample and examines the characteristics of phased retirees relative to non-phased retirees. The following Table 3 that provides descriptive statistics of the explanatory variables is set forth below.

Table 3: Percentages and Means of Explanatory Variables (n = 5,571)

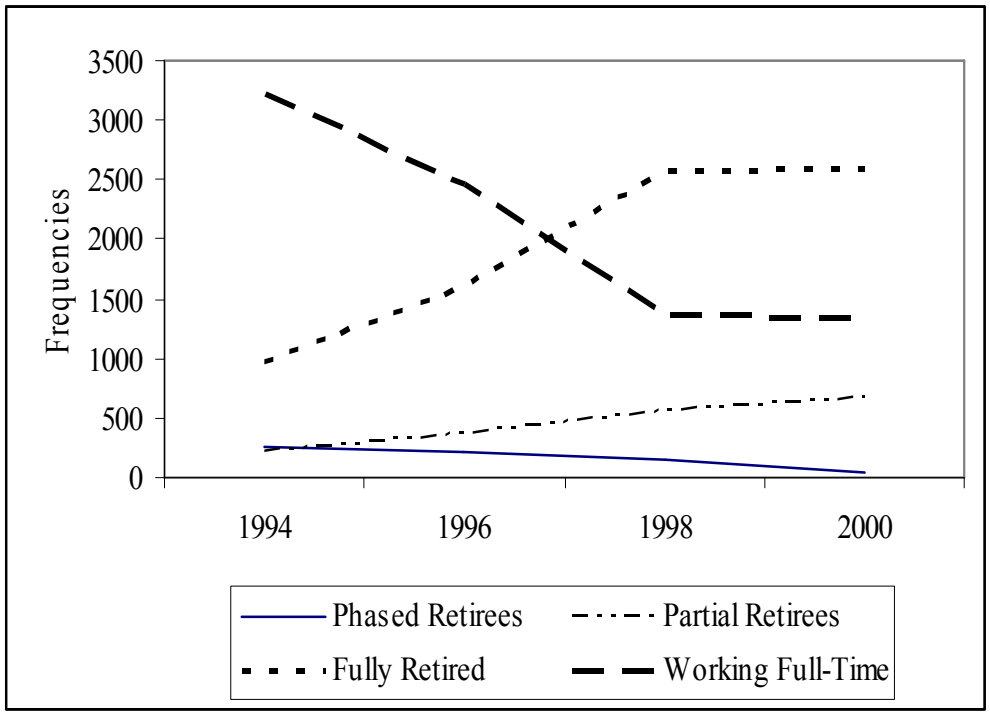
Variable	Means/Percentages
Mean Age	55.35
Mean Years to Usual Retirement Age	8.18
Percentage Female	50.5%
Percentage Black	20.04%
Percentage in Married/Partner Status	78.08%
Mean No. of Children at Home	0.68
Mean Education (in years)	12.50
Percent Self-rated Health Is Good+	87.85%
1992 Mean Wealth	$278,496
Mean Income	$55,609
Mean Job Tenure (in years as of 1992)	14.89
Percentage Manager at Job	28.53%
Percentage Feel Job Is Repetitive	65.40%
Percentage with Access to Retirement Plan	74.96%
Percent with Access to Retiree Health Insurance	54.42%
Percent Who Believe Work Is Important by Itself and Not Just for Money	32.80%
Percent Who Would Keep Working even if Money Not Needed	65.14%
Percent Perceiving Age Bias at Job	36.32%

The following table provides a snapshot of the work-retirement categories for wage-and-salary workers:

Table 4: Retirement Status Categories (Self-Reports and Hours Worked) by HRS Wave, Wage-and-Salary Workers (n = 4,721)

Category	1994	1996	1998	2000
Phased Retirees	354	195	201	63
Partial Retirees	175	259	633	730
Fully Retired	992	1604	2653	2617
Working Full-time	3200	2663	1234	1311

Figure 1: Work-Retirement Status of Wage-and-Salary Workers (Based on self-reports and changes in hours worked), 1994-2000 (n=4,721)

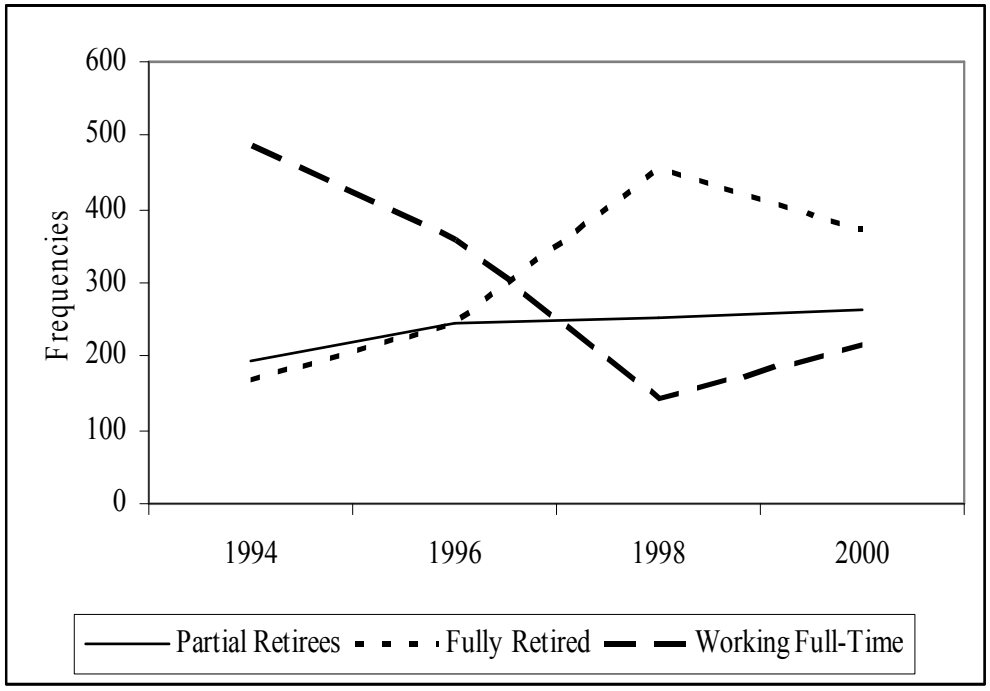


At the bottom of the graph, the diverging lines between phased retirees and part-timers appears to show an inverse relationship between the two group over time as well as an inverse relationship between working full-time and full retirement. However, as Figure 3 shows below, the relationships are somewhat more complex. Before proceeding to Figure 3, the composition of the self-employed persons are shown in the following Table 5 and Figure 2.

Table 5: Retirement Status Categories (Self-Reports and Hours Worked) by HRS Wave, Self-Employed Persons (n = 850)

Category	1994	1996	1998	2000
Working Full-time	488	360	143	215
Partially Retired	195	246	252	263
Fully Retired	167	244	455	372

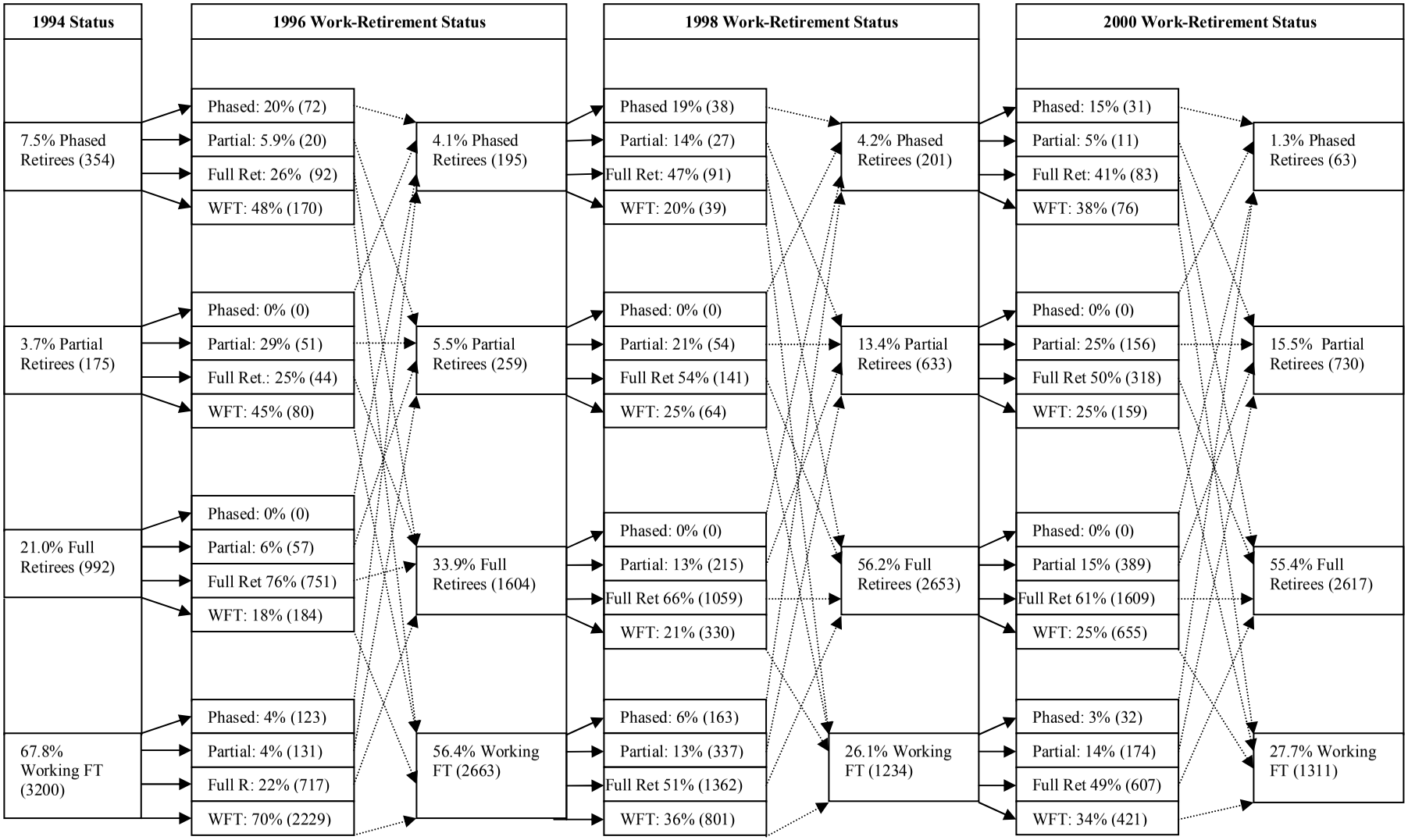
Figure 2: Work-Retirement Status of Self-Employed Persons (Based on Self-reports and changes in hours worked), 1994-2000 (n=850)



As with wage and salary workers, the overall trend is a decrease in working full-time and an increase in full retirement. The phased retirement category fluctuates over time.

Turning back to wage-and-salary workers, we have seen the overall trend of declining work and phased retirement coupled with increasing retirement and part-time work. However, more detail on the transitions between these categories provides a more complex picture. The following Figure 3 provides a breakdown of the work-retirement status categories according to how each category transitioned into the next wave.

Figure 3: Work-Retirement Status Transitions for Wage-and-Salary Workers (Self-Reports and Hours Worked), 1994-2000 (n=4,721)



The chart shows that, despite the overall trend away from working full-time and towards full retirement, there exists a fair amount of variability in terms of the paths taken from work to retirement. Except for moving from partial and full retirement to phased retirement, a respondent can move more than once across work-retirement outcomes over time.[6] The purpose of this graph is to demonstrate the complex nature of retirement, which does not conform to simple categorization.

Since some variability can occur in work-retirement status, we also looked at the number of persons who attained phased retirement and partial retirement status at any time during the survey. Nearly 13.5 percent or 636 were phased retired at any one time from 1992 to 2000, 29 percent were partially retired, and over 38 percent were either or both phased and partially retired over the time period.

Taking a brief look at correlations between phased or partial retirement status and the other variables, there are not strong correlations.[7] Phased retirement is positively correlated with educational attainment but not very strongly (the Pearson correlation coefficient equals 0.06). Partial retirement also shows mild and positive correlations with education and marital status and a mildly negative correlation with being black. Moreover, phased retirement and partial retirement are weakly correlated with each other (0.03).

B. Characteristics of the Phased Retirees

An important question is how phased retirement can be measured and whether differences in defining phased retirement matter in terms of analysis. In this section of the study, we use the definition of retirement status that is based on both self-reported work-retirement status and changes in hours worked to define phased retirees. Table 6 provides a comparison of phased retirees with the larger sample in terms of the independent variables. For simplicity, only wage-and-salary workers are considered.

[6] Due to the nature of the HRS questions and the data programming, it was not possible to see if respondents moved from partial or full retirement back to phased retirement. However, it is conceptually possible and likely as retirees are rehired by former employers.

[7] The full correlation table is available from the author.

Table 6: Observations (Percentages) and t-tests by Phased Retirement Status for Wage-and-Salary Workers (Phased retirement status determined at any time 1994-2000)

Variable	Phased Retirees n = 634	Non-Phased Retirees n = 4,087	t Value	Pr > | t|
Mean Age	55.37	55.25	-0.92	0.3596
Mean Years to Usual Retirement Age	8.29	8.11	-1.08	0.2799
Female	45.59%	44.99%	-0.28	0.7760
Black	20.02%	20.68%	-0.23	0.8156
Married/Partnered	76.10%	76.05%	-0.02	0.9816
Mean Number of Children at Home	0.68	0.68	-0.16	0.8712
Education (in years)	12.94	12.41	-4.14	<0.0001
Self-rated Health Is Good+	90.09	87.39	-1.93	0.0532
Wealth	$369,089	$314,503	-1.27	0.2057
Income 2000	$63,356	$54,407	-3.63	0.0003
Mean Job Tenure (in years)	15.12	15.19	0.15	0.8847
Manager at Job	22.01%	18.33%	-2.21	0.0274
Believe Job Is Repetitive	59.59%	64.84%	2.57	0.0101
Access to Retirement Plan	77.98%	79.63%	0.95	0.3399
Access to Retiree Health Insurance	55.66%	57.91%	1.07	0.2837
Work v. Money	34.90%	29.66%	-2.67	0.0076
Keep Working If Money Not Needed	69.49%	62.88%	-3.23	0.0009
Age Bias Perception	26.57%	26.90%	1.92	0.0558

The table provides evidence that differing definitions of phased retirement will generate some differences in the sample to be studied. In terms of statistically significant differences between the two groups, phased retirees are more likely to be better educated, receive more household income, attain managerial status and have a more positive view of work. Conversely, phased retirees are less likely to perceive their jobs as repetitive in nature. While not technically significant, the results for age bias indicate a perceptible difference with less bias perceived by phased retirees as well as better health.

B. Survival Analysis for Phased Retirees

A life table analysis was performed on both wage-and-salary workers and self-employed persons. The purpose of the life table analysis is to answer the question of whether phased retirement extends the work life, and both survivor and hazard estimates are provided. There are a couple of assumptions in the following analyses. One is that the event that ends the survival period is full retirement as a continuous event (one is considered fully retired if one remains fully retired for the duration of the survey). Another is that the survival period is measured from the 1994 wave when the respondents entered into phased retirement, partial retirement or working full-time. Therefore, those who retired fully in 1994 were dropped from the analysis. The first analysis presented below classifies respondents as phased retirees if they were phased retirees at any time from 1994 to 2000.

Table 7: Survival and Hazard Estimates for Wage-and-Salary Workers by Phased Retirement Status (over all waves 1994-2000) (using self-reported status and hours worked)(Standard deviations in parentheses)(n=3729)

	Phased Retirees		Non-phased Retirees	
Interval	Survival Est.	Hazard Estimate	Survival Est.	Hazard Estimate
1996	1.0 (0.o)	0.0 (0.0)	1.0 (0.0)	0.0 (0.0)
1998	0.9351 (0.0099)	0.0336 (0.0053)	0.8721 (0.0059)	0.0683 (0.0034)
2000	0.8133 (0.0157)	0.0696 (0.0080)	0.7006 (0.0082)	0.1091 (0.0469)

Test	Chi-Square	Pr > Chi-Square
Log-Rank	60.8601	<0.0001
Wilcoxian	59.8695	<0.0001

In the above table, one "survives" a particular period by not entering into full retirement, that is, one keeps working either full-time, part-time or in phased retirement. So, for example, the estimated probability that a phased retiree will not fully retire until 1998 or later is 0.9351 as compared to a survival estimate of 0.8721 for non-phased retirees in the same period. Conversely, the hazard rate of full retirement increases over time for both groups, but the increase is greater for non-phased retirees.

Overall, Table 7 shows that phased retirees are less likely to be at risk of reaching full retirement than non-phased retirees. The Log-rank and Wilcoxian tests of significance, which compute chi-square statistics for the differences in survival and hazard rates, show that the differences in survival and hazard estimates between the groups are statistically significant – That is, we can reject the null hypothesis that there is no difference in rates of reaching full retirement between the two groups.

I next performed the same survival analysis for the same wage-and-salary workers with the only difference being that respondents are considered to be phased retirees if they were phased retirees in 1994. Table 8 below provides these survival and hazard probability estimates for phased and partial retirees and those still working full-time in 1994. Phased and partial retirees are practically identical in their survival and hazard estimates, and those working full-time are not far from phased and partial retirees. The Log-rank and Wilcoxian tests confirm that the differences among the groups are not statistically significant.

Table 8: Survival and Hazard Estimates for Wage-and-Salary Workers by 1994 Status (using self-reported status and hours worked)(n=3,729)

	Phased Retirees		Partial Retirees		Working Full-Time	
Wave	Survival (S.D.)	Hazard (S. D.)	Survival (S.D.)	Hazard (S. D.)	Survival (S.D.)	Hazard (S. D.)
1996	1.0 (0.0)	0.0 (0.0)	1.0 (0)	0.0 (0.0324)	1.0 (0.0)	0.0 (0.0)
1998	0.8870 (0.0168)	0.0599 (0.0945)	0.8971 (0.0230)	0.0542 (0.0127)	0.8813 (0.0572)	0.0631 (0.0032)
2000	0.7373 (0.0234)	0.0922 (0.0126)	0.7314 (0.0335)	0.1018 (0.0187)	0.7166 (0.0079)	0.1031 (0.0045)

Test	Chi-Square	Pr > Chi-Square
Log-Rank	1.9191	0.3831
Wilcoxian	1.6537	0.4374

The survival analysis is also applied to self-employed persons in the following Table 9. As shown below, the results for self-employed phased retirees indicate that phased retiree status is significantly associated with continued work.

Table 9: Survival and Hazard Estimates for Self-employed Persons by Phased Retiree Status (n=775)

	Phased Retirees		Non-phased Retirees	
Wave	Survival Est.	Hazard Estimate (Std. Dev.)	Survival Est.	Hazard Estimate (Std. Dev.)
1996	1.0	0	1.0	0.0
	(0)	(0)	(0)	(0.0)
1998	0.9666	0.0339	0.7864	0.2391
	(0.0075)	(0.0078)	(0.0286)	(0.0357)
2000	0.8489	0.1297	0.5922	0.2817
	(0.0150)	(0.0158)	(0.0342)	(0.0441)

Test	Chi-Square	Pr > Chi-Square
Log-Rank	65.8510	<0.0001
Wilcoxian	72.5564	<0.0001

Finally, a proportional hazards model was developed based on the results of the foregoing life table analyses. The model provides an evaluation of certain covariates that are associated with continued work. The initial life table analyses[8] indicated that only certain explanatory variables out of the larger set previously identified were worth including in a proportional hazards model, and those variables include phased retirement status in 1994 and one of the attitudinal variables, Keep Working ("I would keep working at my job even if I did not need the money"). The estimates are provided below.

[8] This analysis, using the Test statement in PROC LIFETEST, is not shown here for convenience and is available from the author.

Table 10: Proportional Hazards Model for Wage-and-Salary Workers (degrees of freedom = 1)

Variable	Parameter Est.	S.E.	Pr>Chi-Sq.	Hazard Ratio
Age	0.0406	0.0088	<0.0001	1.041
Marital Status	-0.0314	0.0468	0.5031	0.969
Children at Home	-0.0317	0.0209	0.1297	0.969
Education	-0.0245	0.0079	0.0020	0.976
Health Is Good	-0.2559	0.0629	<0.0001	0.774
1992 Job Skill	0.0433	0.0223	0.0523	1.044
Tenure	0.0089	0.0019	<0.0001	1.009
Years to Retire	-0.0090	0.0069	0.1966	0.991
Keep Working	-0.0951	0.0411	0.0207	0.909
Phased Retiree 1994	-0.1151	0.0677	0.0893	0.891

Likelihood Ratio Chi-Square = 169.9212 Pr>Chi-Square <0.0001

The interpretation of the above results is taken from the Hazard ratio in the last column. One of our variables of interest – Keep Working – is statistically significant at the .05 level. With a hazard ratio of 0.909, the hazard of full retirement for those who stated that they would keep working regardless of financial need is 91 percent of the hazard for those who do not feel the same way. Phased retirees in 1994 had 89 percent of the hazard of full retirement as compared to non-phased retirees, but the result is not statistically significant although at 0.0893 the result is not very far from statistical significance. Out of all the variables, good health is very positively associated with a decreased risk of full retirement while increased age is strongly associated with an increased hazard for full retirement.

In summary, phased retirement is, under certain conditions, associated with a longer working life and under other conditions is no better or worse than other pathways to full retirement. Thus, we cannot say that phased retirement, at this stage of the analysis, is associated with encouraging early exit from the workplace. In addition, there is some support that positive attitudes toward work is also associated with continued work. However, the link between work attitudes and phased retirement is developed a little more in the next section.

C. Logistic Regression Results for Phased Retirement Status

The prior two sections established that phased retirees are distinct in certain characteristics from non-phased retirees and that phases retirees are less likely to reach full retirement before non-phased retirees.

This section moves away from a comparative perspective and focuses on factors that are associated with phased retirement itself. In other words, instead of looking at differences between phased retirees and non-phased retirees, are there factors that are associated with the status of phased retirement?

Logistic regressions were run on those persons identified as wage-and-salary workers. In this analysis, phased retirement status in 1996 is the dependent variable, and the analysis uses the set of independent variables from 1992. Three regressions are run to reflect the three interactions between phased retirement and the other outcomes – Phased retiree v. working full-time, v. partial retiree and v. full retirement. Table 11 below provides the results of these regressions over the full set of variables.[9]

[9] Partial models were also run, and the results of these partial models are available from the author.

Table 11: Binomial Logistic Regression Results, Wage-and-Salary Workers (n=3,712) (standard errors are omitted)

Parameter	Partial Retire	Phased Retirement v. Full Retire	Work Full-Time
Age	1.007	0.968	1.077*
Black	1.616	0.706	0.787
Female	1.468	0.782	0.767
Marital Status	0.949	1.062	0.818
Children	1.146	1.053	0.975
Income	1.000	1.000	1.000
Education	1.040	1.176**	1.130**
Health is Good	1.360	2.001*	1.200
Manager	0.566*	0.784	0.734
Job Repetitive	0.940	1.122	1.083
Retirement Plan	0.843	0.948	0.618*
Retiree Health Ins.	0.624	0.558**	0.699*
Tenure	1.004	0.996	1.013
Years to Retirement	1.063	1.018	0.959
Work v. Money	1.149	1.309	1.318
Keep Working	1.836*	1.806*	1.337
Leisurescore	1.081	1.038	1.023
Age Bias	1.081	1.157	1.058
Adjusted R^2	0.12	0.10	0.06
Likelihood Ratio (Pr>ChiSquare)	0.0100	0.0001	0.0001

Odds ratio coefficients. *p < .05; **p < .01.

Because this analysis uses a logistic regression, the results are reported in terms of odds ratios. The odds ratio coefficient provides the predicted probability of the event occurring (in this case, of becoming a phased retiree) given the variable in question and controlling for all other independent variables. Relative to partial and full retirement, a positive work attitude in the form of willing to keep working even in the absence of financial need is associated with a higher likelihood of phased retirement. As we might have predicted, it is not siginificantly associated with phased retirement relative to continued working full-time. Being a manager in 1992 is negatively associated with phased retirement, particularly when compared with partial retirement. Higher education and good health is positively associated with phased retirement versus full retirement, but access retiree health insurance benefits is negatively associated. In terms of phased retirement versus working full-time, retirement plan and

health insurance benefits show a negative association while education is positively associated with phased retirement.

VI. Conclusions

This analysis is not an attempt to test theory but rather is more exploratory in nature in that it is oriented to certain policy-related questions on the phenomenon of phased retirement. However, the results provide the basis for some tentative conclusions that hopefully will guide additional explorations towards a model of predicting the transition between work and retirement.

I first examined differences in group means and proportions between phased retirees and non-phased retirees. In terms of statistically significant differences between the two groups, phased retirees are more likely to be better educated, receive more household income, attain managerial status and have a more positive view of work. Conversely, phased retirees are less likely to perceive their jobs as repetitive in nature. While not technically significant, the results for age bias indicate a perceptible difference with less bias perceived by phased retirees.

In addition, phased retirement appears to be associated with a longer working life or at least does not appear to be associated with early exit. In addition, there is some support that positive attitudes toward work is also associated with continued work. Moreover, the Keep Working variable (respondent would keep working even if she did not need the money) is positively associated with an increased probability of phased retirement.

In summary, positive attitudes appear to have significant and positive association with phased retirement, but much more analysis needs to be done. For example, how do other variables shape attitudes? Does the nature of the job or job tenure influence attitudes toward work in general or the job in particular? These and other questions speak for a more complicated level analysis than is shown here.

Other work needs to be done. Certainly, the crude variables presented here could be made more sophisticated (e.g., exploring the effects of defined benefit v. defined contribution retirement benefits,

interactions between respondent and spouse, between retirement benefits and race/gender). A large question hanging over any research into phased retirement is how to define the phenomenon. Until we can come up with standard definitions, it will be difficult to study phased retirement let alone examine public policy proposals. In addition, a testable model that incorporates theory needs to be developed. This analysis is just the beginning of a descriptive examination and was not an attempt to develop a theory of transitions to retirement. However, it is clear that any model needs to explore phased and partial retirement as well as attitudes of workers towards work and leisure.

APPENDIX A: Description of Independent Variables

Attitudes towards Work – Three variables, based on the respondent's opinion, are used to measure attitudes towards work. First, general opinions about the value of work relative to money are measured (Work v Money). The respondent is asked if he or she thinks of work as important because of money or money is less important than work itself. Second, respondents are asked if they would keep on working even if they did not need the money. The variable Keep Working is coded "1" if the respondent answers in the affirmative. Third, respondents are asked whether they perceive any bias against older workers in their workplace either through promotion or through being made unwelcome.

Age: There will be two measures of age for respondents. First there will be the calculated Age of the respondent. However, because the data is limited to persons aged 51 to 61 in 1992 and because expectations about one's own retirement as well as cultural norms regarding expected age within companies and industries may vary, this paper calculates an additional age-based variable. The HRS asks what is the usual or customary retirement age for the respondent's particular job or occupation. Based on the response, a continuous variable (Years to Retire) will measure the proximity of the respondent's own age to the usual retirement age for the job or for people who work with the respondent as perceived by the respondent.

Education: Educational attainment will be treated as a dummy variable (Some College) of achieving at least 13 years of education.

Race and Sex – Because African-Americans are believed to suffer from reduced opportunities in employment and retirement, this study will focus on them in the construction of the race variable. A dummy variable (Black) will be coded as '1' if the respondent is black. Gender will also be an independent dummy variable with male being the reference category.

Family Status and Relationships – Family status and obligation variables will examine the effects of the presence of a partner/spouse and children. First, a marital status variable of whether the respondent is single (single never married, separated, divorced, widowed) with the variable (Marital) being coded as '1' if the respondent is in a coupled relationship (married or cohabitating). Second, the presence or absence of children in the house is also taken into account by including a variable (Children) that asks for the number of children living at home and temporarily away at school. Third, spouse/partner obligations will be included with a variable (Retire With Spouse) that looks at whether the respondent plans to retire at the same time as his or her spouse.

Work History and Job Environment – A continuous variable (Tenure) is measured by noting the date on which the respondent started working for the current employer and then subtracting that date from the date of the interview. In addition, the HRS asks if the respondent's job is repetitive. A response of 'almost all the time' or 'most of the time' will be coded as '1' for the variable Repetitive. Moreover, each person is asked about perceived age bias or discrimination at their place of work.[10] If the answer is

[10] The questions are, "In decisions about promotion, my employer gives younger people preference over older people." "My coworkers make older workers feel that they ought to retire before age 65."

either ‘almost all the time’ or ‘most of the time,’ the variable Age Bias is coded ‘1.’ 1992 job skill level (Skill92) is based on occupational codes for the respondent’s job, with white collar/high skill = 1, white collar/low skill = 2, blue collar/high skill = 3 and blue collar/low skill = 4.

Health – Health status (Health Is Good) is a self-rated assessment that the respondent’s overall health is at least ‘good’ or better. This dummy variable coding is based on an underlying variable that asks the respondents to rate their health according to the measures of Excellent, Very Good, Good, Fair or Poor.

Access to Employee Benefits – Two variables look at the effect of employee benefits, one for workplace pension, retirement or tax-deferred plans and the other being coverage by employer-provided retiree health insurance. Each variable, Retirement Plan and Retiree Health, is coded as ‘1’ if the respondent indicates that he or she has access to that benefit program.

Financial Characteristics – Financial position of the respondent will be represented by a net worth measure called Wealth that will include both housing and non-housing equity less any debt. Included in non-housing equity is the present value of pension benefits, if any. In this study, the wealth data for respondents are converted to log form.

REFERENCES

Allen, Steven G., Robert L. Clark and Linda S. Ghent. 2001. "Phasing Into Retirement," Paper presented at the Society of Labor Economists annual meeting in Austin, Texas.

Bartle, Linda Rae. 1989. *An Analysis of the Attitudes and Perceived Needs of a Population of Public School System Employees and Retirees Regarding Retirement and Pre-Retirement Planning.* University of Maryland Ph.D. Dissertation.

Bedeian, Arthur G., Gerald R. Ferris, and K. Michele Kacmar. 1992. "Age, Tenure, and Job Satisfaction: A Tale of Two Perspectives." *Journal of Vocational Behavior*, 40: 33-48.

Berry, Laura J. 1998. *Faculty Retirement Turnover in Community Colleges: A Real or Imagined Problem?* University of Arkansas Ph.D. Dissertation.

Bertelsen, Katherine Huggins. 1983. *A Study of Phased Retirement Programs at Land-Grant Colleges and Universities and the Development of Phased Retirement Models for the University of Tennessee*. University of Tennessee Ph.D. Dissertation.

Blau, David M. and Donna B. Gilleskie. 2001. "Retiree Health Insurance and the Labor Force Behavior of Older Men in the 1990s." *The Review of Economics and Statistics*, 83(1): 64-80.

Blau, David M. 1994. "Labor Force Dynamics of Older Men." *Econometrica,* 62(1): 117-156.

Chen, Yung-Ping and John Scott. 2003. "Gradual Retirement: An Additional Option in Work and Retirement." *North American Actuarial Journal*, 7(3):62-74.

Clark, Andrew, Andrew Oswald, and Peter Warr. 1996. "Is job satisfaction U-shaped in old age?" *Journal of Occupational and Organizational Psychology*, 69: 57-81.

Costa, Dora L. 1998. *The Evolution of Retirement*. Chicago: University of Chicago Press

Dalessio, Anthony, William H. Silverman, and John R. Schuck. 1986. "Paths to Turnover: A Re-analysis and Review of Existing Data on the Mobley, Horner, and Hollingsworth Turnover Model." *Human Relations*, 39(3): 245-263.

Dwyer. 2001. "Planning for Retirement: The Accuracy of Expected Retirement Dates and the Role of Health Shocks." Working Paper 2001-08, Center for Retirement Research at Boston College, Chestnut Hill, Massachusetts, http://www.bc.edu/crr.

Ehrenberg, Ronald G. 2001. "The Survey of Changes in Faculty Retirement Policies." American Association of University Professors, http://www.aaup.org/newweb/Issues/retirement/retrpt.htm.

Ekerdt, David J. 1986. "The Busy Ethic: Moral Continuity between Work and Retirement." *The Gerontologist*, 26:239-244.

Ekerdt, David J., Stanley DeViney and Karl Kosloski. 1996. "Stability and Change in Plans for Retirement." HRS/AHEAD Working Paper No. 96-035.

Flippen, Chenoa and Marta Tienda. 2000. "Pathways to Retirement: Patterns of Labor Force Behavior and Labor Market Exit Among the Pre-Retirement Population by Race, Hispanic Origin, and Sex." *Journal of Gerontology: Social Sciences*. 55B:1, S14-S27.

Flippen, Chenoa and Marta Tienda. 1996. "Labor Force Behavior of Hispanic Elderly: Insights from HRS." HRS/AHEAD Working Paper No. 96-032.

Freeman, R.B. 1978. "Job Satisfaction as an Economic Variable." *The American Economic Review*, 68(2): 135-141.

Friedberg, Leora and Anthony Webb. 2000. "The Impact of 401(k) Plans on Retirement." Discussion Paper 2000-30, University of California, San Diego.

Fullerton, Jr., Howard N., and Mitra Toossi. 2000. "Labor Force Projections to 2010: Steady Growth and Changing Composition." *Monthly Labor Review*, 123(11), U.S. Department of Labor, Washington, D.C.

Fullerton, Jr., Howard N. 1999. "Labor Force Participation: 75 years of change, 1950-1998 and 1998-2025." *Monthly Labor Review*, 122(12): 3-12, U.S. Department of Labor, Washington, D.C.

Glenn, Norval D. and Charles N. Weaver. 1985. "Age, Cohort, and Reported Job Satisfaction." In *Current Perspectives on Aging and the Life Cycle,* ed. Zena Smith Blau, Greenwich, Connecticut: Jai Press.

Gustman, Alan L. and Thomas L. Steinmeier. 2001. "Retirement and Wealth." Working Paper No. 8229, National Bureau of Economic Research. Cambridge, Massuchusetts.

Gustman, Alan L. and Thomas L. Steinmeier. 2000. "Retirement Outcomes in the Health and Retirement Study." Working Paper No. 7588, National Bureau of Economic Research, Cambridge, Massachusetts.

Gustman, Alan L. and Thomas L. Steinmeier. 1994. "Retirement in a Family Context: A Structural Model for Husbands and Wives." Working Paper No. 4629, National Bureau of Economic Research, Cambridge, Massachusetts.

Gustman, Alan L. and Thomas L. Steinmeier. 1984. "Partial Retirement and the Analysis of Retirement Behavior." *Industrial and Labor Relations Review*, 37(April): 403-415.

Haider, Steven and David Loughran. 2001. "Elderly Labor Supply: Work or Play?" RAND Working Paper 01-09.

Hayward, Mark D., Melissa A. Hardy and William R. Grady. 1989. "Labor Force Withdrawal Patterns among Older Men in the United States." *Social Science Quarterly,* 70(2): 425-448.

Hayward, Mark D., William R. Grady, Melissa A. Hardy and David Sommers. 1989. "Occupational Influences on Retirement, Disability, and Death." *Demography*, 26(3): 393-409.

Hayward, Mark D., Eileen M. Crimmins and Linda A. Wray. 1994. "The Relationship Between Retirement Life Cycle Changes and Older Men's Labor Force Participation Rates." *Journal of Gerontology*, 49(5): S219-230.

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(4): 983-1000.

Henretta, John C. and Hyunkee Lee. 1996. "Cohort Differences In Men's Late-Life Labor Force Participation." *Work and Occupations*, 23(2): 214-235.

Honig, Marjorie and Hanoch. 1985. "Partial Retirement as a Separate Mode of Retirement Behavior." *The Journal of Human Resources,* 20(1):21-46.

Honig, Marjorie. 1996. *Changes over Time in Subjective Retirement Probabilities*. HRS/AHEAD Working Paper No. 96-036.

Honig, Marjorie and Irena Dushi. 2001. "The Changing Mix of Benefits Over the Life Cycle." Paper Presented at the Pension Research Council Symposium, "Benefits for the Workplace of Tomorrow," April 30 and May 1, 2001.

Hurd, Michael. 1996. "The Effect of Labor Market Rigidities on the Labor Force Behavior of Older Workers," in *Advances in the Economics of Aging*, ed. D.A. Wise. Chicago: University of Chicago Press.

Hurd, Michael and Kathleen McGarry. 1993. "The Relationsip Between Job Characteristics and Retirement." Working Paper No. 4558, National Bureau of Economic Research, Cambridge, MA.

Inkeles, Alex and Chikako Usui. 1989. "The Retirement Decision in Cross-National Perspective." In Rita Ricardo-Campbell and Edward P. Lazear, ed., *Issues in Contemporary Retirement*. Stanford, California: Hoover Institution Press.

Jackson, Paul R. and Phillip E. Taylor. 1994. "Factors Associated with Employment Status in Later Working Life." *Work, Employment and Society*, 8:4, 553-567.

Lillard, Lee and Robert Willis. 2001. "Cognition and Wealth: The Importance of Probabilistic Thinking." Paper Presented at the Third Annual Conference of the Pension Research Consortium, Making Hard Choices About Retirement, Washington, D.C.

Lumsdaine, Robin L., James H. Stock and David A. Wise. 1996. "Why Are Retirement Rates So High at Age 65?" in *Advances in the Economics of Aging*, ed. D.A. Wise. Chicago: University of Chicago Press.

Lumsdaine, Robin L. 1995. "Factors Affecting Labor Supply Decisions and Retirement Income." Working Paper No. 5223, National Bureau of Economic Research, Cambridge, Massachusetts.

Lumsdaine, Robin L., James H. Stock and David A. Wise. 1994. "Retirement Incentives: The Interaction Between Employer-Provided Pensions, Social Security, and Retiree Health Benefits." Working Paper No. 4613, National Bureau of Economic Research, Cambridge, Massachusetts.

Mueller, Chales W., E. Marcia Boyer, James L. Price and Roderick D. Iverson. 1994. "Employee Attachment and Noncoercive Conditions of Work.." *Work and Occupations*, 21(2): 179-212.

Mutran, Elizabeth J. and Reitzes, Donald C. 1998. "The Decision to Retire: A Career Perspective." *Social Science Quarterly*, 79(3): 607-620.

Pampel, Fred C. and Jane A. Weiss. 1983. "Economic Development, Pension Policies, and the Labor Force Participation of Aged Males: A Cross-national, Longitudinal Approach." *American Journal of Sociology*, 89(2): 350-372.

Purcell, Patrick J. 2000. "Older workers: Employment and Retirement Trends." *Monthly Labor Review,* October: 19-30.

Quinn, Joseph F. and Michael Kozy. 1996. "The Role of Bridge Jobs in the Retirement Transition: Gender, Race, and Ethnicity." *The Gerontologist,* 36(3): 363-372.

Quinn, Joseph F., Richard Burkhauser, Kevin Cahill and Robert Weathers. 1998. "Microeconometric Analysis of the Retirement Decision: United States." Economics Department Working Papers No. 203, Organisation for Economic Co-operation and Developoment, http://www.oecd.org/eco/eco/wkp(98)16.

Quinn, Joseph F. 1999. "Has the Early Retirement Trend Reversed?" Paper Presented at the First Annual Joint Conference for the Retirement Research Consortium, "New Developments in Retirement Research," May 20-21, Boston, Massachusetts.

Reitzes, Donald C., Elizabeth J. Mutran and Maria E. Fernandez. 1998. "The Decision to Retire: A Career Perspective." *Social Science Quarterly*, 79(3): 607-619.

Ruhm, Christopher J. 1990. "Bridge Jobs and Partial Retirement." *Journal of Labor Economics*, 8(4):482-501.

Shields, Michael A. and Melanie E. Ward. 2000. "Improving Nurse Retention in the British National Health Service: The Impact of Job Satisfaction on Intentions to Quit." Discussion Paper No. 118, the Institute for the Study of Labor, Bonn, Germany.

Stewart. 1995. "Do Older Workers Respond to Changes in Social Security Benefits? A Look at Time Series Evidence." Working Paper 271, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C.

Stock, James and David A. Wise. 1990. "Pensions, the Option Value of Work, and Retirement." *Econometrica*, 58(5): 1151-1180.

U.S. Department of Labor. 2001. *Pension Plan Bulletin*, Winter 2001, No. 10, http://www.dol.gov/dol/pwba/public/programs/opr/bullet97/cover.htm.

U.S. Department of Labor. 2002. *Workers on Flexible and Shift Schedules*. Bureau of Labor Statistics, http://www.bls.gov/news.release/flex.t01.htm.

Watson Wyatt. 1999. *Phased Retirement Survey*. Watson Wyatt Worldwide, Washington, D.C.

Wiatrowski, William J. 2001. "Changing retirement age: ups and downs." *Monthly Labor Review*, April: 3-12.

Williamson, John B. and Tay K. McNamara. 2001. "Why Some Workers Remain in the Labor Force Beyond the Typical Age of Retirement." CRR WP 2001-9, Center for Retirement Research, Chestnut Hill, Massachusetts.

Wise, David A. 1997. "Retirement Against the Demographic Trend: More People Living Longer, Working Less, and Saving Less." *Demography*, 34(1): 83-95.