An Evaluation of the Retirement Questions in the Health and Retirement Study

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The availability of new data from the Health and Retirement Study (HRS) has spawned a tremendous amount of new economic research on retirement in the United States during the past decade. Much of this research has focused on retirement timing and expectations, on the effect of Social Security and pensions on retirement, and on the effect of health status and health insurance on retirement. This paper has several goals: to briefly describe the retirement questions in the HRS, to present an overview of the recent retirement literature that makes use of HRS data, and to make suggestions for future changes to the questions related to retirement behavior. The remainder of the paper is organized along these lines.

Part I: Description of Retirement Questions in the HRS

The attached appendix provides a list of retirement questions in the HRS. As the appendix makes evident, the retirement questions in the survey have changed somewhat over time. The most significant change was after wave 1, when a separate section on retirement plans was eliminated. Many of the questions asked in wave 1 were moved to the employment and expectations sections, while other questions were eliminated. The retirement questions have remained virtually unchanged since wave 2.

The retirement questions can be grouped into several categories. All respondents are asked about their retirement status and access to early retirement windows. Retirees are also asked about the date of retirement, reason for retirement, pre-retirement planning (wave 1 only), and satisfaction during retirement. Workers are asked about the expected timing of retirement and about their expectations for what retirement will be like. Please see the appendix for additional details.

Part II: Overview of Recent HRS-Based Retirement Literature

Literature on Retirement Timing and Expectations

The HRS can be used to analyze a simple yet important question: when do people retire and does this depend on the definition of retirement used? This issue is explored in Gustman, Mitchell, and Steinmeier (1995) and Gustman and Steinmeier (2001b). They note that the timing of retirement has changed substantially over time: relative to the Retirement History Survey (RHS) cohort of the 1970s, the fraction of workers in the HRS leaving the labor force at 65 is half as large and the fraction leaving the labor force at 62 is twice as large. They also find that retirement often occurs later if defined as reporting oneself as completely or partially retired than if defined based on hours or weeks worked. Quinn (2000) notes that many people are now retiring via a "bridge job" rather than leaving a career job directly for retirement.

A related issue is the accuracy of predictions about the expected timing of retirement. Many authors (Chan and Stevens 2001a, Hurd 1999, Hurd and McGarry 1999, Honig 1996, Honig 1998, Gustman and Steinmeier 2001d, Benitez-Silva and Dwyer 2002) have found that answers to questions about expected retirement age are quite consistent with aggregate observed retirement probabilities and that they vary with the factors that determine actual retirement in predictable ways. Panis et. al. (2002) and Dwyer and Hu (2000) explore the factors associated with changes in retirement expectations, such as health shocks or the loss of retiree health insurance.

Literature on Social Security, Pensions, and Retirement

Another significant branch of the recent HRS-based retirement literature is the literature examining the effects of Social Security and pensions on retirement. The HRS is ideal for the analysis of such questions because it allows researchers to accurately calculate future benefit entitlements using matched Social Security earnings histories and detailed pension plan data provided by employers.[1] A brief overview of this literature follows.

Coile and Gruber (2001) and Gustman and Steinmeier (1999) use the HRS to calculate the incentives for retirement at particular ages arising from the structure of the Social Security system and private pensions; Chan and Stevens (2002) show how job loss affects these incentives. Coile and Gruber (2000) estimate reduced-form models exploiting cross-sectional variation in incentives to delay retirement and find that larger incentives are associated with later retirement, while Honig (1998) finds that married women's retirement expectations are affected by these incentives in the same way. Friedberg and Webb (2000) find that the spread of defined contribution pension plans has led workers to retire later

Several authors (Harris 2001, Panis et. al. 2001) estimate structural models of retirement that incorporate retirement benefits. Gustman and Steinmeier (2001c, 2002b) construct a structural model of retirement that incorporates differences in savings preferences and use this model use to simulate the effect of a change in the Social Security early entitlement age, a topic also addressed by Panis et. al. (2002). Mitchell and Phillips (2000) construct a model that allows workers to chose disability or retired worker benefits and conclude that cuts in early retirement

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[1] The HRS also asks respondents a large number of questions about their pension plans. Gustman and Steinmeier (2001a) note that respondents' knowledge of their plans is often not very good; for example, only half of respondents correctly identify whether they have a defined benefit or defined contribution pension plan.

benefits would not have a large effect on take-up of disability benefits.

Several recent papers have explored the effect of Social Security and pensions in the context of a family retirement decision-making model, including Coile (1999), Gustman and Steinmeier (2002a), and Maestas (2001). In addition, several papers have explored Social Security claiming behavior. Coile et. al (2002) confirm results from earlier data that few workers delay benefit claiming substantially after retiring, while Hurd et. al. (2002) find that people with low subjective survival probabilities both retire and claim slightly earlier than other workers.

Literature on Health, Health Insurance, and Retirement

A second important strand of the recent HRS-based literature on retirement is the literature on health status, health insurance, and retirement. The HRS data is ideal for research on this question because of the rich data on health and health insurance that can be linked to retirement information.

Many studies (Burkhauser et. al. 1999, Loprest et. al. 1995) have found poor health status to be an important determinant of retirement. Bound et. al. (1998) find that past poor health status has an additional negative effect on labor supply, suggesting that the trend is important as well as the level. However, some authors have suggested that health status could be endogenous in a retirement model if individuals may report themselves to be in poor health to justify the fact that they do not work for pay. Kreider (1999) finds this to be a significant problem, although Benitez-Silva et. al. (2000) and Dwyer & Mitchell (1999) do not. Several papers (Coile 2002, Falba 2000, McClellan 1998) have avoided the potential endogeneity of health status in retirement models by exploring the effects of negative health events on retirement, and all have

found the shocks to be a significant determinant of retirement. Both Johnson and Favreault (2001) and Coile (2002) focus on the effect of spouse's health status on retirement. Finally, Charles (2002) finds that the correlation between depression and retirement is driven by depressing events such as job loss leading to retirement, rather than by any direct effect of retirement on depression.

A number of studies have examined the impact of health insurance on retirement. Several studies (Blau and Gilleskie 2001a, Rogowski and Karoly 2000) have estimated reduced-form models of the effect of employer-provided retiree health insurance on retirement, and have found this to be a highly significant factor, reducing retirement age by 6-24 months. Similarly, Johnson, Davidoff, and Perese (1999) calculate the net present value of health insurance costs if an individual were to retire at a particular age, and finds that the higher are these costs, the less likely an individual is to retire; Johnson (2001) use this to predict the effect of raising the Medicare eligibility age to 67. Two recent papers (Blau and Gilleskie 2001b, French and Jones 2001) estimate structural models of retirement than incorporate health insurance. Interestingly, both find little impact of health insurance on retirement behavior, at least in the case when the effect of health insurance is forced to operate solely through the budget constraint.

Other Literature on Retirement

There is a small literature on the effects of job characteristics and skills on retirement. Hurd and McGarry (1993) find that people who work in flexible jobs (e.g., jobs where hours can be reduced) have later expected retirement, while Adams (2002) finds that workers who report that their employers favor younger workers are more likely to retire. Friedberg (2001) finds that

older workers who can use computers retire later. Chan and Stevens (2001b) find that older

workers have a harder time re-entering labor force.

Finally, there are two additional papers of note that do not fit into any of the above

literatures. Lusardi (1999) uses a question about whether an individual has thought much about

retirement to explore characteristics of planners and non-planners and to correlate this measure

with self-reported additional savings to be done prior to retirement. Brown (2000) explore early

retirement windows, and finds that window offers are made to relatively more advantaged

workers and that variables such as age and education have little explanatory power in

determining who accepts them.

Part III: Potential Changes to the HRS

In this section, we suggest a number of potential changes to the HRS that could assist in

our understanding of retirement behavior. The HRS has done an excellent job of collecting data

on retirement behavior and expectations. This has been used widely, as reviewed above, and will

likely continue to be used widely in the future. But there are some weaknesses in the data

collection that should be remedied. These are concentrated in three areas: understanding the

implications of retirement for well-being; further extending data to help model the transition

between work and retirement; and understanding the opportunity cost of work and leisure.

Understanding the Implications of Retirement for Well-Being

A critical question that has been the focus of little study to date is the implications of

retirement for well-being. Retirement is a major life event that can impact well-being through

several routes. First, there may be a decline in income, potentially a large one, which can impact well-being through the budget constraint. Second, the transition from work to leisure could reduce or increase well-being, depending on enjoyment of one's job and tastes for full-time leisure; the latter, in particular, may be uncertain ex ante. Third, retirement alters family dynamics, with spouses potentially spending a lot more time together, or even a reversal of traditional roles if the male retires and the female continues working; this can impact well-being through these family dynamics.

The HRS has some proxies for well-being that have been sporadically included in the data sets. Information on consumption has been collected, but the measure has varied between food consumption (waves 1, 2, and 5) and total consumption (waves 3 and 4). We recommend that a **consistent and more detailed consumption module be added to the survey**. Such a module would collect information on:

- Expenditures on food, at home and away
- Expenditures on housing (rent or mortgage)
- Expenditures on utilities
- Expenditures on clothing
- Expenditures on entertainment
- Transfers to others
- Expenditures on tobacco and alcohol
- Total expenditures

The advantage of this list is that it involves major expenditures which are likely to be recalled with some precision. These are also categories of particular interest for research. For example, data on expenditures on food at home vs. away could be used to examine changing roles of spouses as providers of consumption goods, and data on expenditures on "vice goods" could be used to assess how consumption of these goods varies with retirement resources.

Another advantage of collecting consumption information is that it could provide a further cross-check on the validity of income and wealth data. Presumably the computer-assisted interviewing system could include an internal check on the responses to the income, wealth, and consumption questions to assess internal consistency.

We also recommend that the survey **include a consistent measure of overall life satisfaction**. Measures of life satisfaction or "happiness" have been shown to be valuable indicators of well-being levels in other contexts; see Frey and Stutzer (2002) for a review. As a result, their use in economic research is growing exponentially. The HRS did ask such a question in wave 1, but after wave 1 only asked specifically about satisfaction with retirement and health care. The general life satisfaction question should be reinserted in the survey and asked in every wave.

Finally, a potentially critical determinant of well-being after retirement may be religiosity, and in particular the level of religious participation. In all waves, the survey has asked about religious preference. But data on religiosity has been sparse and inconsistent; individuals were asked about frequency of attendance in waves 1-2, and then about importance of religion in one's life for waves 3-5. We recommend that the **HRS add back the qeustion on frequency of attendance, as well as retaining the question on religious importance**. Having the information on frequency of attendance is critical for modeling the role of religion in post-retirement life.

Data to Further Assist Retirement Modeling

As reviewed above, a literature has emerged using the HRS to model retirement decisions. This literature has been aided by the excellent data collected by the HRS on retirement incentives, both through Social Security and private pensions, and on retirement behavior. But there remain important holes in the data collection which impede richer modeling of retirement.

First, the HRS should add **information on earnings expectations**. The expectation questions in the HRS in other contexts (e.g. mortality or retirement) have found many successful applications. But earnings expectation data have not been collected, and these are critically important for appropriately modeling retirement. Both Social Security and pension entitlements will depend on the path of future earnings, as will the attractiveness of continuing on the current job. The HRS could ask a question of the form "Over the next year, if you continue to work, do you expect your earnings to rise, fall, or stay the same?". Similar questions could be asked over different time horizons. It might even be possible to elicit magnitudes, e.g. by how much individuals expect earnings to rise or fall. Ideally, expectations would be elicited not only on earnings, but also on both hours and wage rates, so that we can assess whether earnings are expected to fall due to partial retirement or due to declines in wage rates.

Second, the HRS should add **information on understanding of Social Security and pension actuarial adjustments**. The leading edge of retirement research currently focuses on dynamic models where it is not just the level of the Social Security or pension entitlement that drives retirement decisions, but also how that entitlement changes with additional work. Many retirement models assume that individuals understand the dynamics of how their Social Security

and private pension payments evolve with continued work and earnings. But other work has questioned the level of knowledge of these details, and has shown, using these HRS data, that individuals may dramatically misforecast their benefits levels.

As a result, it is important to assess whether individuals really do understand the evolution of benefits under Social Security and private pensions with additional work. For example, the survey could ask individuals what their benefits would be if they retired at 62, and what they would be if they retired at 65. Or individuals who are nearer retirement ages could be asked about potential benefits if they retire this year versus the next. This information could then be compared to true actuarial adjustments to see how well individuals understand these incentives. If there is a tremendous misunderstanding, it casts doubt on models which rely on the evolution of benefits to model retirement. Moreover, if there is a general understatement of the magnitude of actuarial adjustments, it may imply that individuals are reitiring "too early" because they don't appreciate the financial returns to continued work through actuarial adjustment.

Retirement modeling would also be aided by **more complete information on earnings histories**. The data on earnings histories in the HRS are now flawed in three ways. First, the high quality administrative earnings data only extends until the first survey date, so that noisier self-reported earnings must be used thereafter. This is unfortunate, and ideally the administrative wage data could be extended through the current (and future) waves. Second, the self-reported earnings data that are collected are collected only at the two year interview interval. As a result, the timing of any sizeable changes in earnings, which can matter critically for retirement modeling, is unknown. Individuals should be asked when earnings changed within the two year interval. Moreover, it may be sensible to include some validity check in cases where individuals

do report very large changes in earnings over the two year window, to ensure that these are true earnings changes and not reporting error. Third, while the earnings histories have information on covered work over the 1951-1991 period, there is no information about whether the current job is covered by FICA. Adding such a question could be valuable both for modeling who is covered by the system and for assessing understanding of the system among clearly covered workers.

Understanding the Opportunity Cost of Work and Leisure

The work on retirement to date has generally presumed that retirement is an "aborbing state"; once individuals make the decision to retire, they have no desire to return to work. But this assumption is at odds with the evidence showing sizeable rates of reentry into the labor force of retirees. It is therefore important to understand the perceived opportunity cost of leisure and work in the HRS sample.

We recommend in particular that the HRS add **questions designed to get at the opportunity cost of leisure**. This could be done, for example, by asking respondents what wage would be required to get them to return to work at their last job, or at some other job. The survey should also ask retirees if they are considering returning to work or looking for work. These questions tie critically back to the set of well-being issues discussed above. If individuals appear willing to return to work at reasonable wage levels, this suggests that there may be some failures in labor markets that are not enabling the elderly to maximize their well-being.

In addition, the HRS could add parallel questions that **measure the opportunity cost of work**. For those who are working, the HRS could ask at what wage levels they would retire; for example, if their wage were halved, would they retire? Would the try to switch jobs? Or would

they just stay on the job? If there is a very fragile buffer between work and retirement, this

suggests that small changes in retirement entitlements or in wages could have important impacts

on the distribution of work among the elderly.

Part IV: Conclusions

The HRS has been an unqualified success in the field of retirement research. Its obvious

dominance over all other data sets has made it the clear source of data for any study of

retirement, and the large literature that has emerged using these data in the past five years is a

testimony to their value.

Nevertheless, there is room for improvement. Following the suggestions presented above

would improve the scope for retirement modeling, allow for a better understanding of the

implications of retirement for well-being, and allow us to understand the value of leisure and

desired tradeoffs between work and retirement.

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Appendix: Retirement Questions in the HRS

Category	Question Text	Waves	Section
Retirement Status	"We are interested in your present job status. Are you working now, temporarily laid off, unemployed and looking for work, disabled and unable to work, retired, a homemaker, or what?"	1-5	Employment (1-5)
	"Are you doing any work for pay at the present time?"	1-5	Employment (1-5)
	"At this time do you consider yourself partly retired, completely retired, or not retired at all?"	1-5	Retirement Plans (1), Employment (2-5)
Retirement Date: Retirees	"In what month and year did you retire?"	1-5	Employment (1-5)
Reason for Retirement: Retirees	"Thinking back to the time you retired, was it something you wanted to do or something you felt you were forced into?"	1-5	Retirement Plans (1), Employment (2-5)
	"I'm going to read you a list of reasons why some people retire. Please tell me whether, for you, these were very important, moderately important, somewhat important, or not important at all."	1	Retirement Plans (1), Employment (2-5)
Retirement Planning: Retirees	"Before you retired, how much had you thought about retirement?"	1	Retirement Plans (1)
	"How much had you discussed retirement with your husband/wife/partner?" "… your friends or co-workers?"	1	Retirement Plans (1)
	"Had you attended any meetings on retirement or retirement planning?" "Were any of these meetings organized by your … employer?"	1	Retirement Plans (1)
Retirement Satisfaction: Retirees	"All in all, would you say that your retirement has turned out to be very satisfying, moderately satisfying, or not at all satisfying?"	1-5	Retirement Plans (1), Employment (2-5)
	"Thinking about your retirement compared to the years just before you retired, would you say the retirement years have been better, about the same, or not as good?"	1-5	Retirement Plans (1), Employment (2-5)
	"I am going to read you a list of things that some	1-5	Retirement Plans (1),

	people say are good about retirement. For each one, please tell me if, during your retirement, they have been very important, moderately important, somewhat important, or not at all important."		Employment (2-5)
	"Now for things that some people say are bad about retirement. Please tell me if, during your retirement, they have bothered you a lot, somewhat, a little, or not at all."	1-5	Retirement Plans (1), Employment (2-5)
Timing of Retirement: Workers	"When do you think you will retire completely?"	1	Retirement Plans (1)
	"Do you expect your spouse to retire at about the same time you do?"	1	Retirement Plans (1)
	"Some people want to stop paid work entirely when they retire, while others would like to continue doing some paid work. What about you?"	1	Retirement Plans (1)
	"On your main job, what is the usual retirement age for people who work with you or have the same kind of job?"	1-5	Employment (1-5)
	"Are you currently planning to stop working altogether or work fewer hours at a particular date or age, to change the kind of work you do when you reach a particular age, have you not given it much thought, or what?"	1-5	Employment (1-5)
	"At what age do you plan to stop working?" "… to start working fewer hours?" "… to change the kind of work you do?" "… to start working for yourself?"	1-5	Employment (1-5)
	"What do you think are the chances that you will be working full-time after you reach age 62?" "…age 65?"	2-5	Cognition (2), Expectations (3-5)
	"My co-workers make older workers feel that they ought to retire before age 65."	1-5	Employment (1-5)
Retirement Expectations: Workers	"When you and your husband/wife/partner do retire, are you likely to move to a different location, stay where you are, or what?"	1	Retirement Plans (1)
	"What are the chances you will move to another location when you retire?"	2	Cognition (2)
	"How much have you thought about retirement: a lot, some, a little, or hardly at all?"	1	Retirement Plans (1)

	"Have you discussed retirement with your husband/wife/partner?" "…with your friends or co-workers?"	1	Retirement Plans (1)
	"Had you attended any meetings on retirement or retirement planning?" "Were any of these meetings organized by your … employer?"	1	Retirement Plans (1)
	"When you think about the time when you will retire, are you looking forward to it, are you uneasy about it, or what?"	1	Retirement Plans (1)
	"I am going to read you a list of things that some people say are good about retirement. For each one, please tell me if, for you, they are very important, moderately important, somewhat important, or not important at all."	1-5	Retirement Plans (1), Employment (2-5)
	"Now for things that worry some people about retirement. Please tell me if they worry you a lot, somewhat, a little, or not at all."	1-5	Retirement Plans (1), Employment (2-5)
	"When you decide to retire, do you expect your living standards to increase a lot, increase somewhat, stay about the same, decline somewhat, or decline a lot?"	1	Retirement Plans (1)
	"… roughly how much savings and reserve funds do you expect to have accumulated by the time you decide to retire?"	1	Retirement Plans (1)
Retirement Windows	Numerous questions about early retirement windows – whether offered, details on offer, etc.	1-5	Employment (1-5)