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Changes over Time in Subjective Retirement Probabilities

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HRS the Health and Retirement Study AHEAD Asset and Health Dynamics Among the Oldest Old

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Abstract: Reliable forecasts of future retirement patterns are of obvious importance in formulating public policy. The predictive value of workers' expectations regarding retirement depends, however, on whether expectations are reliable indicators of future retirement, conditional on the information available at the time that expectations are formed. Using workers' responses in the U.S. Health and Retirement Survey about the chances of working after age 62, this paper provides some tentative answers to two important questions regarding retirement expectations: Does there appear to be a high random component to expectations regarding future retirement and, if not, does the same behavioral model that generates retirement realizations seem to generate retirement expectations as well? Findings on changes in reported expectations between Waves 1 and 2 of the HRS suggest that expectations may well provide useful information about future retirement.

Data used: Health and Retirement Study: U.S., 1992 (first wave) and 1994 (second wave)

Key words: retirement plans; expectations; subjective probabilities; determinants of retirement

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1. Introduction

The Health and Retirement Survey contains several questions on household expectations. These questions elicit responses in the form of subjective probability statements about future events. Workers are asked, for example, the chances that on a scale from 0 to 10 where 0 is equal to "absolutely no chance" and 10 implies "absolutely certain" that they will be working full-time after ages 62 and 65. Rescaled from 0 to 1, their answers may be interpreted as subjective probabilities.[1] Responses to questions framed in this way provide more information about retirement intentions[2] than simple yes/no predictions of binary outcomes or than answers to the most common form of expectations question, at what age will you retire? More to the point of this paper, they may also provide better answers to the economist's first question regarding household expectations in general: How useful is this information?

In principle, information on workers' retirement plans could be of considerable value. Reliable forecasts of future retirement patterns would be useful in evaluating the effectiveness of public policies, for example. Whether the increases in the age of eligibility for full Social Security benefits beginning in 2,000 are likely to have the intended positive effects on the labor supply of older workers could be inferred from their expectations in the next few years regarding their probable age of retirement. More precise estimates of the determinants of current labor supply, moreover, could be obtained by including expected age of retirement as an explanatory variable since it is unlikely that this information is fully incorporated into the standard correlates of hours of work. The discounted value of workers' wealth could also be measured more accurately with information on expected retirement age since the asset value of defined-benefit employer pensions, for example, often declines significantly for retirement after the age of eligibility for early benefits. Currently, Social Security wealth also declines for retirement after 65.[3]

The usefulness of information on retirement expectations depends, of course, on whether expectations are reliable predictors of future retirement, conditional on the information available at the time that expectations are formed. Are they generated by the same behavioral model as retirement realizations? If so, do survey responses accurately reflect the underlying expectations generated by this model, which are unobserved? Do survey responses appear to be consistent and reasonable?

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[1] A scale of 0 to 10 was used in the first interview and 0 to 100 in the second interview. To scale the subjective probabilities similarly, second-interview responses between one and four chances in 100 are set equal to 0; five to 14 equal to 0.1, etc., and 95 to 99 chances in 100 equal to 1. This assumes that a response of one in 100 chances is closer in meaning to "absolutely no chance" than to ten chances in 100, and that 99 in 100 chances is closer to "absolutely certain" than to 90 chances in 100. Only 1.4 percent of women and 1.7 percent of men in the full HRS sample gave responses of one to four or 95-99.

[2] The concepts of leaving full-time work and retirement are equated here, thus ignoring the issue of partial retirement.

[3] Benefits lost by workers delaying retirement past 65 are recouped later with an actuarial increase that is currently smaller than that needed to compensate for the reduced years of benefit receipt. This actuarial adjustment is gradually being increased to reach 8%, an actuarially fair adjustment, by 2008.

Cross-section evidence from Wave 1 of the Health and Retirement Survey (Honig, 1994, 1996; Hurd and McGarry 1994) suggests that the answers to these questions may be positive. Workers' responses do not appear to have an unusually high random component compared to other survey information. Answers to questions regarding the likelihood of continuing full-time work after ages 62 and 65 are internally consistent at the individual level and response averages correspond to average retirement probabilities in the population (Hurd and McGarry, 1994). These expectations, moreover, can be explained by a number of the correlates of actual retirement. The expected retirement functions of both men and women in fact quite closely resemble realized retirement functions found in the literature (Honig, 1996). Gender differences found in actual retirement, moreover, are also evident in the expected functions.[4]

We can be even more confident of the usefulness of this information on expectations if the characteristics we observe in the cross-section are also evident over time. We would like to know, for example, whether individual responses are generally consistent over time and, if new information is received, whether these responses change in a reasonable way. In this paper I examine changes over a two year period in the subjective probabilities of continuing full-time work after age 62, using the Public Use File of the first interview (Wave 1) of the Health and Retirement Survey (HRS) and a preliminary version (Early Release File) of the second interview (Wave 2) data. Looking at mean probabilities in the two interviews as well as cross-tabulations of probability distributions, I find what appear to be reasonable, non-random response patterns over time. Workers' subjective probabilities vary systematically with age and over time in directions we would predict for retirement expectations. They also change over time with changes in covariates of retirement such as own health and spouse's health and employment status. Changes over time also differ by gender in ways that are not inconsistent with some of the differences we have observed in men's and women's retirement behavior. Finally, in a simple test of the predictive value of these data, I find that Wave 1 expectations of work after 62 are lower among Wave 2 non-workers than among those continuing full-time work.

The next section of this paper discussses the data and samples. The main section analyzes the two-year changes between Waves 1 and 2 in the subjective probability of working past age 62 by race, ethnicity, gender, and age. Changes in mean subjective probabilities and in the distributions are examined and changes over time are correlated with changes in a number of known determinants of retirement. Finally, Wave 1 probability distributions are compared for Wave 2 workers and non-workers. Findings are summarized in the final section.

[4]With additional waves of the survey, it will be possible to match retirement expectations with eventual realizations. Studies using the 1969-79 Retirement History Survey found a strong correlation between expected retirement age and actual age of retirement (summarized in Honig, 1996).

2. The Data

In Wave 1 of the HRS, the question regarding the chances of working full-time after age 62[5] was asked only of workers; in Wave 2, all respondents were asked except non-workers who said there was no chance that they would work in the future. The sample used here is restricted to full-time workers aged 51-59 in Wave 1 who were still working full-time for the same employer two years later. The sample is limited to full-time workers since they, among all workers, are most likely to have given serious consideration to full-time work in the future. The expectations of those continuing with the same employer, moreover, are most likely to reflect plans for retirement in its most common form, that is, exit from a longer-term job, and are least likely to reflect the plans of those who may have already partially retired. Among non-workers and workers in new, perhaps less strenuous full-time jobs in Wave 2, responses regarding full-time work may not reflect expectations about retirement in the same sense as the responses of workers on long-term jobs. Changes in retirement expectations among new job-holders, moreover, may be related to characteristics of the new job, for which we have weaker predictions regarding what would constitute a consistent change in expectations, rather than to changes in the Wave 1 job or to changes in personal characteristics of the individual.[6] Other exclusions from the sample are the self-employed and multiple job-holders.

I examine retirement expectations separately by gender and by three racial/ethnic groups: non-Hispanic whites (thereafter, "whites"), non-Hispanic African Americans (thereafter, "blacks"), and Hispanics. We may have greater confidence in the validity of expectations data if differences in expectations and in the factors influencing the formation of expectations are consistent with the gender differences we have observed in actual retirement. Furthermore, until the HRS sample ages, our only insights into the current retirement behavior of the black and Hispanic populations are provided by what we can learn from their retirement intentions.[7] While the smaller sample sizes will not permit as detailed an examination as that of the white population, we are nonetheless able to discern a number of differences between blacks and Hispanics, and whites.

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[5] In Wave 1, the mean subjective probability of working full-time after 62 in the full HRS sample was 0.47; the mean probability of working after 65 was only 0.27. Since relatively few respondents in the HRS expect to work after 65, I focus on expectations related to age 62.

[6] Mean subjective probabilities and changes in probabilities between Waves 1 and 2 differ significantly between the full sample and that of full-time, continuous workers. This may be attributed in part to the considerations mentioned above and in part to the fact that nonworkers were also asked the question in Wave 2. Among male full-time continuous workers, the mean subjective probability declined from 0.50 in Wave 1 to 0.47 in Wave 2; among all men asked the question, the mean probability declined from 0.53 to 0.47. Among female full-time continuous workers, the mean declined from 0.47 in Wave 1 to 0.45 in Wave 2; among all female respondents, from 0.42 to 0.37.

[7] Only one previous study has focused on the retirement decisions of these populations. Gustman and Steinmeier (1986) examines the retirement behavior of black men in the Retirement History Survey.

3. Retirement Expectations Over Time

A. Two-Year Changes in Subjective Probability Distributions

Table 1 shows changes between Waves 1 and 2 in full-time workers' expectations that they will be working full-time after age 62. Mean subjective probabilities are presented separately by gender, race and ethnicity in the upper panel of the table, and by gender and age for the larger sample of white men and women in the lower panel. While there is no objective test of what constitutes a reasonable and non-random response pattern between the two interviews, the data clearly do not reveal large or erratic changes over time.

We observe a small decline in the mean subjective retirement probabilities that is consistent across the six demographic samples. This decline in mean probabilities indicates that an event or events not anticipated two years previous caused workers to revise downward their expectations of working full-time after age 62. In the absence of unforeseen events, expectations would be predicted to rise since they are conditional on another two years of full-time work. Corporate "downsizing" over the period, which increased the likelihood of earlier voluntary or involuntary retirement among older workers, may not have been anticipated. It is also possible that productivity and health declined faster than expected two years before, although the weak associations between these factors and changes in expectations discussed below suggest that these are not the source of the downward revision in probabilities. The lower panel of Table 1 suggests that among white men and women, for whom there are sufficiently large samples to examine differences by age, the largest declines in mean probabilities over the two year period occurred among the middle age group, those 54-56 in Wave 1.[8] These appear to be the ages at which retirement plans are more realistically assessed, resulting in less optimistic evaluations of the likelihood of continuing full-time work for reasons that are at present unknown. A more detailed examination of this age group should provide some insights into this puzzling decline over the two-year period.[9]

The lower panel of Table 1 also reveals a pattern of change in the subjective probabilities that is consistent with our prediction of the effect of sample selection and thus increases our confidence in these data. Mean probabilities rise with age for both white men and women, presumably reflecting stronger tastes for work among older workers who have chosen to remain two more years in full-time jobs.[10] We would expect this result in this sample of women, the majority of whom are married and may have alternative sources of income.[11] It is at first glance surprising to find this pattern among men, but it is not inconsistent with the trend among men toward earlier retirement, which would

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[8]These differences are significant for men and just under conventional levels of significance for women.

[9]Hurd and McGarry (1995) finds a similar unexplainable decline between the two interviews in the subjective probabilities of living past ages 75 and 85.

[10]The differences in means between the youngest and oldest age groups are significant for both men and women in both waves.

[11]Two-thirds of white women are married.

imply that men in their mid- and late-fifties still in full-time jobs are increasingly likely to have stronger tastes for work.

Tables 2a and 2b present cross-tabulations of the Wave 1 and 2 responses of white men and women regarding their chances of continuing work past 62. Column and row totals appear in bold across the bottom and to the right of each table[12]; diagonals indicate identical responses in both years. Cross-tabulations can be particularly revealing of random response since relatively stable mean probabilities over time can mask erratic but roughly offsetting changes within the distributions.

We first examine the single cross-section distributions for indications of random response patterns. Mass concentrated primarily at the polar values of 0 and 1 in either year, for example, would suggest undue certainty about continuing or not continuing full-time work several years in the future. Some mass at these values is reasonable, however, since work status, unlike life expectancy, is partially within the control of the individual. While the largest concentrations in the Wave 1 and 2 distributions of white men (Table 2a) are at values of 0 and 1, there is mass at each of the remaining values and the polar values constitute less than one-half (43 and 47 percent, respectively) of each of the distributions. Large shifts over time between 0 and 1 would also suggest random response. Two years later, however, roughly one-half of the men reporting 0 or 1 in Wave 1 reported identical values in Wave 2 . For example, a total of 24.2 percent reported 0 in Wave 1 and 14.1 percent also reported 0 in Wave 2; 18.5 percent reported 1 in Wave 1 and 8.7 also reported 1 in Wave 2. Among those changing their assessments in Wave 2, the majority moved to values near their initial choices of 0 or 1. For example, 10.1 percent reported 0 in Wave 1 and a different value in Wave 2, and 5.4 percent chose values of less than 0.5 in Wave 2. Finally, if we examine the column and row totals, we see that the distributions in the two different years are very similar. These same patterns, which do not suggest random or erratic survey responses, are also evident in Table 2b for white women.

Table 2a reveals another pattern that increases our confidence in the reasonableness of these data. As male respondents draw two years closer to the target age of 62, they become more certain about their retirement plans. More than three-quarters of the men who were presumably uncertain in Wave 1 about their chances of continuing work after 62 and thus selected the midpoint of 0.5 later adjusted their estimates toward either 0 or 1. Fifteen percent reported values of 0.5 in Wave 1, whereas only 3.6 percent were still as uncertain in Wave 2; 3.8 percent revised their estimates to either 0 or 0.1, and 2.4 percent revised them to either 0.9 or 1. Overall, higher proportions of men reported values of 0 and 1 in Wave 2 than in Wave 1.

We observe a somewhat different pattern for women in Table 2b. While only one-quarter of women reporting 0.5 in Wave 1 repeated this estimate in Wave 2, like the men, another group (3.9 percent) who had reported in Wave 1 that there was no chance they would work after age 62 became far less certain over the two years and gave values of 0.5 in Wave 2. Because of this relatively greater heterogeneity among women, the overall distributions are similar in the two years and do not reveal the increased certainty evident in the Wave 2 distribution of men. This gender difference in expectations is not inconsistent with the relatively stronger role of spouse's retirement

[12]Totals may not equal 100 percent due to rounding.

that we have observed in the retirement decisions of married white women,[13] if women who in Wave 1 had planned to leave full-time work before 62 become uncertain two years later because of changes in their husbands' retirement plans. Whether this explanation is correct will become evident in a more detailed multivariate analysis of changes in subjective probabilities when the full Wave 2 data become available.

Extreme patterns of paired Wave 1 and 2 responses at the individual level, showing either little change or little stability, might also suggest thoughtless, random response. Table 3 summarizes the changes over time that are evident in Tables 2a and 2b. Slightly more respondents lowered their subjective probabilities, which is consistent with the lower mean probabilities in Wave 2 reported in Table 1. Among demographic groups, relatively larger proportions of black men and Hispanic women lowered their assessments of continued full-time work than other groups. Overall, men were somewhat more inclined to change their expectations than women. In general, however, Wave 2 subjective probabilities rose, fell, or remained unchanged in roughly equal proportions.

While not conclusive, these patterns of change over time do not suggest random, unconsidered responses to questions regarding future work. This conclusion is strengthened by a closer examination of patterns of change by age.

B. Changes in Subjective Probabilities by Age: Effects of Duration to Event

Table 4 presents distributions of changes between Waves 1 and 2 in the expectation of working past 62 for the three Wave 1 age groups examined in the lower panel of Table 1: ages 51-53, 54-56, and 57-59. I examine here whether expectations are more stable over time for those for whom time to the event, passing age 62, is shorter. I assume that the arrival rate of new information is lower for these respondents and that their subjective probabilities are thus less likely to change.

Table 4 suggests that this is the case for white men but not for white women. Among men in the youngest age group, 51-53 in Wave 1, 28.5 percent reported identical subjective probabilities in Waves 1 and 2. In the oldest age group, those 57-59 years old in Wave 1, 34.3 percent maintained stable expectations over the two-year period. This difference is significant at just under conventional levels. We may also add to the evidence from Table 2a regarding the increase in certainty among white men as they move two years closer to the target age of 62. The oldest age group in Table 4 is between one and three years from being 62. Among those in this age range who changed rather than maintained their probabilities, nearly one-half who lowered their expectations of working after 62 reduced them to 0, compared to one-third in the younger age group. Similarly, one-half of those who increased their expectations raised them to 1, compared to one-quarter in the youngest age group. (These results are calculated from Appendix Tables 1a-1c, which present the cross-tabulated distributions for each age group of white men.) Thus, as the oldest age group neared 62, more of them maintained stable expectations and among those who changed expectations, their responses reflected greater certainty about their work status in the near future.

White women aged 57-59 in Wave 1, in contrast, show no greater stability in their estimates of future work between Waves 1 and 2 than women in the two younger age groups. In fact, the

[13]See Honig (1996) for a summary of this literature.

degree of stability declines with age, although this difference is not significant. This pattern is consistent with our findings in Table 2b that the Wave 2 probability distribution for women revealed no greater certainty than the Wave 1 distribution and may share a common explanation related to the importance of spouses' employment status in married women's retirement decisions.

Similar to men, however, the responses of women in the oldest age group who changed their estimates reflect an increased certainty about their work status after 62. For example, nearly one-half of the women aged 57-59 in Wave 1 who increased their estimates of continued work raised them to 1.0, compared to only one-fifth and one-third respectively in the younger age groups (calculated from Appendix Tables 1d-1f). Thus, while fewer older women maintained stable expectations over the two years, those who changed their assessments, like men, indicated an increased certainty regarding their plans.

C. Correlates of Changes in Expectations Over Time

I next compare changes between Wave 1 and Wave 2 in the expectations of continuing work after 62 with changes in a number of correlates of observed retirement: health (a self-reported measure of change since previous interview), productivity on the job (measured by whether respondents report that the job has become more difficult), and, among married respondents, spouses' health and two measures of spouses' employment status.[14] I compare the distributions of responses among increases, decreases, and no changes in Wave 2 expectations between respondents who have experienced a change in a correlate and those who have not experienced a change. These distributions are presented in Tables 5a - 5f.

We do not expect that changes in correlates that were fully anticipated in Wave 1 would be associated with changes in subjective probabilities from Wave 1 to Wave 2. Thus we should not be surprised if the relationships in Tables 5a-5f are weaker than those we observe in examining changes in employment status over time. It is unlikely that all changes in predicted correlates are anticipated, however, and thus we would expect to see some corresponding changes in workers' expectations that are consistent across respondents and that accord with our notions of the way in which various factors influence the retirement decision.

We observe first that relative responses between workers experiencing a change in a given correlate and those not experiencing a change are for the most part internally consistent. Among respondents experiencing a change, a higher proportion raising their expected probability of working is matched with a smaller proportion lowering it. Among white men (Table 5a) whose spouses were employed in Wave I, for example, 54.6 percent of those whose spouses had retired increased the probability that they would continue to work past 62, compared to only 33.3 percent of men whose spouses were still working in Wave 2. Correspondingly, only 18.2 percent of those whose spouses had retired decreased the probability that they would still be working, compared to 35.1 percent of those with spouses still working.

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[14] Changes in marital status would also be expected to be correlated with revised expectations of continuing full-time work. This variable is omitted because respondents who became divorced between interviews were omitted from the Wave 2 Early Release data and there were few deaths among spouses between the two interviews.

The strongest associations between changes in correlates and subjective probabilities in the full samples of 51-59 year old respondents are related to changes in spouses' health and employment status. When the focus is narrowed to older respondents in the sample, own health changes are also significantly related to changes in the estimated probability of continuing full-time work.

Among the white men whose spouses were employed in Wave 1 and who increased their probabilities of working after 62 in Wave 2, the difference of 21.3 percent between those whose spouses had retired and those whose spouses continued to work is just under conventional levels of significance. The pattern is the same for men whose wives were not working at the Wave 2 interview but not necessarily retired, but the statistical relationship is weaker. The direction of change suggests that income needs for these men outweighed tastes for joint leisure. Interestingly, husbands' retirement did not perceptibly change white wives' estimates of their likelihood of working after 62 (Table 5b), suggesting either that our earlier hypothesis about the effect of husbands' retirement on the degree of certainty of wives' plans is incorrect or that husbands' actual retirement is anticipated but changes in his retirement plans are not.

Among Hispanic married women (Table 5f), 46.7 percent of those whose spouses' health had deteriorated raised the probability that they would continue working, compared to a significantly lower 21.1 percent of women whose spouses' health was unchanged. In contrast, Hispanic married men (Table 5e) whose spouses' health had worsened reduced the likelihood that they would continue working: 46.7 percent lowered the likelihood that they would work after 62, compared to 30.6 percent whose spouses' health remained constant (difference just under conventional significance levels). Among black married women (Table 5d), 44.8 percent of those whose spouses' health had worsened lowered the probability that they would continue working, compared to 24.6 percent among women whose spouses' health was stable, although this difference is not statistically significant.

The association between changes in correlates and expectations is stronger among older respondents, who appear to experience more unanticipated changes in health or in the employment status of a spouse. Table 6a presents findings for white males who were aged 54-56 in Wave 1, the age group experiencing changes that are most strongly correlated with their intentions regarding future full-time work. Among married men, a significantly higher proportion of those whose spouses' health worsened between Waves 1 and 2 raised the probability of working after 62 than those whose spouses' health did not change, a relationship that was not evident in the full sample. The direction of the change in subjective probabilities suggests that expected needs for increased income were more important than increased demands for time in the home. Consistent with this result, a significantly higher proportion of men whose spouses stopped working between Waves 1 and 2 increased their probabilities of working after 62 relative to those whose spouses continued to work.[15]

The strongest relationship between changes in a correlate of actual retirement and changes in expectations in Table 6a is at first glance counter-intuitive. A significantly higher proportion of older white men whose own health worsened between Waves 1 and 2 raised the probabilities that

[15] The number of spouses in this age group who retired is too small to determine whether the same behavior would be observed in the event of a spouse's retirement. In the full sample, the association is just below conventional levels of significance (see discussion of Table 5a).

they would work after 62, relative to those whose health remained constant. While the direction of this change in probabilities does not accord with our expectations regarding the negative effect of poor health on employment, it is possible that in a sample of men who are continuing full-time work it reflects marginal health changes, as well as unanticipated needs for longer-term health insurance coverage, which for many workers may not be available under lower-cost employer-sponsored plans after retirement.

Among white women, the most significant associations between changes in retirement correlates and subjective probabilities are found for the oldest age group, 57-59 in Wave 1 (Table 6b). In contrast to men, a significantly higher proportion of women whose health deteriorated between the two interviews lowered their probabilities of work after 62, relative to those whose health remained constant. This result may be reconciled with the finding for men to the extent that married women, who constitute the majority of the female sample, are covered under their husbands' health insurance and need not continue working to maintain coverage. Whether employer-provided health insurance plays as key a role in the expectations of both men and women remains an interesting question for further investigation. A higher proportion of women whose spouse retired between Waves 1 and 2 lowered the probability that they would work after 62, relative to those whose spouses continued to work, although this difference is not statistically significant, possibly because of small cell size.

While the majority of respondents aged 51-59 reported that their job had become more difficult since the first interview, this change was not associated with a change in the expectations of leaving the job of any of the demographic groups. Further experimentation with alternative measures of changed working conditions, a number of which are available in the HRS, will determine whether the increasing difficulty of the job was anticipated two years prior or whether a change of this type has no implications for the job-leaving age.

A sample limited to workers continuing with the same employer is likely to understate the relationship between changes in a correlate of retirement and changes in the expectations of working since workers whose deteriorating health or reduced productivity led them to both lower their expectations of working past 62 and to accept a less demanding full-time job with another employer are omitted from the sample. Despite this, we have found associations between subjective retirement probabilities and a number of variables known to influence actual retirement outcomes. While only suggestive, these findings for simple changes bode well for multivariate analyses of changes when the final version of the Wave 2 data becomes available.

D. Expectations and Realizations

Finally, we would like to determine whether Wave 1 subjective retirement probabilities have any predictive value for Wave 2 retirements. Figures 1a and 1b present distributions of Wave 1 subjective probabilities regarding work after 62 by Wave 2 employment status for older white men and women, those aged 57-61 in Wave 1. For both genders, realizations in Wave 2 are reflected in expectations reported in Wave 1. Significantly higher proportions of men and women not working in Wave 2 reported values of 0 in Wave 1 when asked about the chances of working after 62. In addition, fewer non-workers reported values of 1 than those who were still working in Wave 2, although these differences are below conventional levels of significance. The differences in Wave 1 expectations between Wave 2 workers and non-workers are consistent at each value of the

distribution, moreover, crossing at 0.4 among men and 0.3 among women. With the full Wave 2 sample, we may determine whether subjective retirement probabilities have additional predictive power after controlling for other factors that influence retirement. Meanwhile, this simple exercise suggests that correlations between retirement expectations and retirement realizations, which may be examined when additional waves of the HRS are available, may be quite high.

4. Summary

Economists have a long tradition of discounting the information in household expectations regarding events in the distant future. Nowhere is this practice more anomalous than in the analysis of retirement behavior, which is based on a model of life-cycle labor supply that invokes strong assumptions about the individual's ability to form plans over a long time horizon.

The value of workers' expectations regarding retirement depends on whether expectations are reliable indicators of future retirement, conditional on the information available at the time that expectations are formed. Using workers' responses regarding the chances that they will be working after age 62, this paper has attempted to provide some tentative answers to two important questions regarding retirement expectations: Does the same behavioral model that generates retirement realizations also generate retirement expectations? And if so, do survey responses accurately reflect underlying retirement expectations, which are unobserved?

Preliminary findings on changes in reported expectations between Waves 1 and 2 of the HRS suggest that expectations may well provide useful information about future retirement. Changes in mean subjective probabilities and cross-tabulations of Wave 1 and 2 probability distributions of continuing full-time work after 62 indicate consistent, reasonable responses over time. Changes in expectations vary systematically with age and proximity to the event, as expected. Gender differences are consistent with what we observe about the retirement patterns of men and women. Changes in expectations between Waves 1 and 2 are also related to changes in known covariates of retirement such as health and spouse's health and employment status. Finally, Wave 1 expectations of work after 62 are lower among Wave 2 non-workers than among those continuing full-time work. While far from conclusive, these findings increase our confidence in the usefulness of these data for predicting retirement and suggest that further examination of their potential value is clearly warranted.

REFERENCES

Gustman, Alan L., and Steinmeier, Thomas L. 1986. "A Disaggregated, Structural Analysis of Retirement by Race, Difficulty of Work, and Health." *Review of Economics and Statistics* 67: 509-513.

Honig, Marjorie. 1994. "The Subjective Probabilities of Retirement of White, Black, and Hispanic Married Women." Health and Retirement Study Working Paper No. 94-008. Ann Arbor, MI: Institute for Social Research, University of Michigan.

Honig, Marjorie. 1996. "Retirement Expectations: Differences by Race, Ethnicity, and Gender." Presented at the annual meeting of the American Economic Association, Washington, D.C., 1995. Forthcoming in *The Gerontologist*.

Hurd, Michael D., and McGarry, Kathleen. 1994. "Evaluation of Subjective Probability Distributions." Health and Retirement Study Working Paper No. 94-004. Ann Arbor, MI: Institute for Social Research, University of Michigan.

_____. 1995. "The Predictive Validity of the Subjective Probabilities of Survival in the Health and Retirement Survey." Presented at the HRS 2 Early Results Workshop, Institute for Social Research, University of Michigan, October 20-21.

Table 1

Changes in Mean Subjective Probabilities of Working Full-time after Age 62
Full-time Workers with Same Employer, Aged 51-59 in Wave 1
(Standard deviations in parentheses)

	Wave 1 PrWrk		Wave 2 PrWrk	
All Men (n = 1257)*	0.498	(0.379)	0.466	(0.389)
White (n = 993)	0.492	(0.378)	0.461	(0.391)
Black (n = 148)	0.480	(0.398)	0.432	(0.390)
Hispanic (n = 91)	0.595	(0.369)	0.553	(0.371)
All Women (n = 1128)*	0.470	(0.382)	0.449	(0.388)
White (n = 813)	0.497	(0.379)	0.478	(0.385)
Black (n = 222)	0.375	(0.384)	0.347	(0.376)
Hispanic (n = 71)	0.439	(0.362)	0.423	(0.405)
White Men, by Age in Wave 1				
51- 53 (n = 375)	0.456	(0.375)	0.435	(0.374)
54- 56 (n = 353)	0.485	(0.376)	0.433	(0.380)
57- 59 (n = 265)	0.553	(0.378)	0.535	(0.421)
White Women, by Age in Wave 1				
51- 53 (n = 312)	0.474	(0.368)	0.452	(0.367)
54- 56 (n = 279)	0.492	(0.387)	0.441	(0.398)
57- 59 (n = 222)	0.535	(0.382)	0.560	(0.395)

*Includes 25 men and 22 women of other races or ethnicities

Table 2a

Changes in Subjective Probability Distributions of Working Full-time after 62
Full-time Workers with Same Employer, Aged 51-59 in Wave 1
Percentage Distribution
White Men (n = 993)

Wave 2	Wave 1 Probability Distribution of Working after 62											
Distribution	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0	
0	14.1	1.7	2.8	1.0	0.7	3.2	0.2	0.5	0.7	0.6	2.4	**27.9**
.1	3.1	0.4	0.9	0.5	0.2	0.6	0.1	0.2	0.2	0.0	0.5	**6.8**
.2	0.7	0.4	0.6	0.1	0.1	1.0	0.2	0.3	0.2	0.1	0.4	**4.1**
.3	1.3	0.4	0.9	0.7	0.3	1.0	0.3	0.3	0.4	0.2	0.3	**6.1**
.4	0.3	0.2	0.3	0.0	0.2	0.9	0.1	0.0	0.0	0.1	0.2	**2.3**
.5	1.9	0.5	0.7	1.0	0.4	3.6	0.7	1.3	1.7	0.5	1.8	**14.2**
.6	0.3	0.0	0.0	0.0	0.2	0.2	0.0	0.2	0.2	0.0	0.2	**1.3**
.7	0.1	0.0	0.2	0.1	0.0	0.6	0.1	0.0	0.7	0.0	0.2	**2.0**
.8	0.8	0.1	0.2	0.4	0.2	1.4	0.4	0.9	2.6	1.1	2.0	**10.2**
.9	0.1	0.3	0.1	0.1	0.0	0.5	0.2	0.9	1.2	0.7	1.8	**5.9**
1.0	1.4	0.0	0.2	0.2	0.3	1.9	0.3	1.2	2.5	2.4	8.7	**19.2**
	24.2	**4.0**	**6.9**	**4.1**	**2.6**	**15.0**	**2.7**	**5.8**	**10.4**	**5.7**	**18.5**	

Table 2b

Changes in Subjective Probability Distributions of Working Full-time after 62
Full-time Workers with Same Employer, Aged 51-59 in Wave 1
Percentage Distribution
White Women (n = 813)

Wave 2	Wave 1 Probability Distribution of Working after 62											
Distribution	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0	
0	13.8	1.9	1.6	0.7	0.6	2.2	0.5	0.4	1.0	0.3	1.5	**24.4**
.1	1.4	0.6	1.1	0.3	0.3	1.6	0.1	0.5	1.0	0.3	0.7	**7.8**
.2	1.7	0.5	0.6	0.4	0.1	0.9	0.0	0.1	0.4	0.1	0.3	**5.0**
.3	0.9	0.0	0.3	0.5	0.1	1.2	0.0	0.5	0.5	0.0	0.6	**4.6**
.4	0.1	0.0	0.6	0.0	0.4	0.7	0.0	0.1	0.1	0.0	0.4	**2.5**
.5	3.9	0.6	1.0	1.0	0.5	3.8	0.1	1.9	1.7	0.4	2.2	**17.1**
.6	0.0	0.0	0.0	0.3	0.1	0.3	0.3	0.3	0.4	0.1	0.1	**1.7**
.7	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.3	0.1	0.6	**1.2**
.8	0.3	0.4	0.4	0.3	0.0	1.7	0.7	1.6	2.0	0.6	2.7	**10.6**
.9	0.1	0.0	0.1	0.4	0.0	0.7	0.4	0.3	1.1	0.4	1.5	**4.9**
1.0	1.9	0.5	0.1	0.7	0.3	2.2	0.4	1.0	2.1	1.5	9.7	**20.3**
	24.0	**4.4**	**5.8**	**4.4**	**2.5**	**15.5**	**2.5**	**6.5**	**10.5**	**3.7**	**20.3**	

Table 3

Distribution of Changes in Subjective Probabilities of Working Full-time after 62, by Gender, Race, and Ethnicity
Full-time Workers with Same Employer, Aged 51-59 in Wave 1

	Increase in PrWrk %	Decrease in PrWrk %	No Change in PrWrk %
All Men (n = 1257)*	32.5	37.2	30.2
White (n = 993)	32.3	36.1	31.6
Black (n = 148)	31.8	41.2	27.0
Hispanic (n = 91)	33.0	38.5	28.6
All Women (n=1128)*	32.4	35.5	32.1
White (n = 813)	32.2	35.8	32.0
Black (n = 222)	32.9	34.7	32.4
Hispanic (n = 71)	29.6	36.6	33.8

*Includes 25 men and 22 women of other races and ethnicities

Table 4

Distribution of Changes in Subjective Probabilities of Working Full-time after 62, by Age
Full-time Workers with Same Employer, Aged 51-59 in Wave 1

Age in Wave 1	Increase in PrWrk %	Decrease in PrWrk %	No Change in PrWrk %
White Men (n = 993)			
51 - 53 (n = 375)	35.5	36.0	28.5
54 - 56 (n = 353)	30.9	36.3	32.9
57 - 59 (n = 265)	29.8	35.8	34.3
White Women (n=813)			
51 - 53 (n = 312)	29.2	37.2	33.7
54 - 56 (n = 279)	30.8	38.0	31.2
57 - 59 (n = 222)	38.3	31.1	30.6

Table 5a

Correlates of Changes in the Subjective Probabilities of Working Full-time after 62
Full-time Workers with Same Employer, Aged 51-59 in Wave 1
White Men

Changes since Wave 1		Increase in PrWrk %	Decrease in PrWrk %	No Change in PrWrk %
Full Sample (n=993)				
Health worse	Yes (n=84)	36.9	31.0	32.1
	No (n=909)	31.9	36.5	31.6
Job more difficult	Yes (n=588)	33.3	35.5	31.1
	No (n=405)	30.9	36.8	32.4
Married in Wave 1 (n=875)				
Spouse's health worse	Yes (n=97)	32.0	35.1	33.0
	No (n=778)	33.2	36.0	30.9
Spouse employed in Wave 1 (n=606)				
Spouse not working	Yes (n=59)	39.0	28.8	32.2
	No (n=547)	33.1	35.5	31.4
Spouse retired	Yes (n=11)	54.6	18.2	27.3
	No (n=595)	33.3	35.1	31.6

Table 5b

Correlates of Changes in the Subjective Probabilities of Working Full-time after 62
Full-time Workers with Same Employer, Aged 51-59 in Wave 1
White Women

Changes since Wave 1		Increase in PrWrk %	Decrease in PrWrk %	No Change in PrWrk %
Full sample (n=813)				
Health worse	Yes (n=95)	30.5	36.8	32.6
	No (n=718)	32.5	35.7	31.9
Job more difficult	Yes (n=481)	30.6	38.7	30.8
	No (n=332)	34.6	31.6	33.7
Married in Wave 1 (n=533)				
Spouse's health worse	Yes (n=87)	28.7	35.6	35.6
	No (n=446)	30.9	36.3	32.7
Spouse employed in Wave 1 (n=404)				
Spouse not working	Yes (n=53)	32.1	30.9	37.7
	No (n=351)	31.6	35.6	32.8
Spouse retired	Yes (n=43)	27.9	34.9	37.2
	No (n=361)	32.1	34.9	33.0

Table 5c

Correlates of Changes in the Subjective Probabilities of Working Full-time after 62
Full-time Workers with Same Employer, Aged 51-59 in Wave 1
Black Men

Changes since Wave 1		Increase in PrWrk %	Decrease in PrWrk %	No Change in PrWrk %
Full Sample (n=148)				
Health worse	Yes (n=17)	29.4	47.1	23.5
	No (n=131)	32.1	40.5	27.5
Job more difficult	Yes (n=62)	33.9	38.7	27.4
	No (n=86)	30.2	43.0	26.7
Married in Wave 1 (n=119)				
Spouse's health worse	Yes (n=25)	40.0	40.0	20.0
	No (n=94)	30.9	42.6	26.6
Spouse employed in Wave 1 (n=91)				
Spouse not working	Yes (n=17)	35.3	29.4	35.3
	No (n=74)	33.8	37.8	28.4
Spouse retired	Yes (n=4)	75.0	25.0	0.0
	No (n=87)	32.2	36.8	31.0

Table 5d

Correlates of Changes in the Subjective Probabilities of Working Full-time after 62
Full-time Workers with Same Employer, Aged 51-59 in Wave 1
Black Women

Changes since Wave 1		Increase in PrWrk %	Decrease in PrWrk %	No Change in PrWrk %
Full Sample (n=222)				
Health worse	Yes (n=26)	38.5	34.6	26.9
	No (n=196)	32.1	34.7	33.2
Job more difficult	Yes (n=108)	34.3	33.3	32.4
	No (n=114)	31.6	36.0	32.5
Married in Wave 1 (n=86)				
Spouse's health worse	Yes (n=29)	27.6	44.8	27.6
	No (n=57)	33.3	24.6	42.1
Spouse employed in Wave 1 (n=62)				
Spouse not working	Yes (n=15)	26.7	26.7	46.7
	No (n=47)	34.0	29.8	36.2
Spouse retired	Yes (n=7)	28.6	14.3	57.1
	No (n=55)	32.7	30.9	36.4

Table 5e

Correlates of Changes in the Subjective Probabilities of Working Full-time after 62
Full-time Workers with Same Employer, Aged 51-59 in Wave 1
Hispanic Men

Changes since Wave 1		Increase in PrWrk %	Decrease in PrWrk %	No Change in PrWrk %
Full Sample (n=91)				
Health worse	Yes (n=22)	27.3	36.4	36.4
	No (n=69)	34.8	39.1	26.1
Job more difficult	Yes (n=52)	34.6	42.3	23.1
	No (n=39)	30.8	33.3	35.9
Married in Wave 1 (n=79)				
Spouse's health worse	Yes (n=30)	30.0	46.7	23.3
	No (n=49)	36.7	30.6	32.7
Spouse employed in Wave 1 (n=42)				
Spouse not working	Yes (n=4)	25.0	0.0	75.0
	No (n=38)	39.5	23.7	36.8
Spouse retired	Yes (n=0)	-	-	-
	No (n=42)	38.1	21.4	40.5

Table 5f

Correlates of Changes in the Subjective Probabilities of Working Full-time after 62
Full-time Workers with Same Employer, Aged 51-59 in Wave 1
Hispanic Women

Changes since Wave 1		Increase in PrWrk %	Decrease in PrWrk %	No Change in PrWrk %
Full Sample (n=71)				
Health worse	Yes (n=15)	26.7	40.0	33.3
	No (n=56)	30.4	35.7	33.9
Job more difficult	Yes (n=35)	28.6	34.3	37.1
	No (n=36)	30.6	38.9	30.6
Married in Wave 1 (n=53)				
Spouse's health worse	Yes (n=15)	46.7	40.0	13.3
	No (n=38)	21.1	36.8	42.1
Spouse employed in Wave 1 (n=43)				
Spouse not working	Yes (n=6)	16.7	50.0	33.3
	No (n=37)	27.0	35.1	37.8
Spouse retired	Yes (n=5)	0.0	60.0	40.0
	No (n=38)	29.0	34.2	36.8

Table 6a

Correlates of Changes in the Subjective Probabilities of Working Full-time after 62
White Male Full-time Workers with Same Employer, Aged 54-56 in Wave 1

Changes since Wave 1		Increase in PrWrk %	Decrease in PrWrk %	No Change in PrWrk %
Full Sample (n=353)				
Health worse	Yes (n=31)	48.4	22.6	29.0
	No (n=322)	29.2	37.6	33.2
Job more difficult	Yes (n=206)	31.6	37.4	31.1
	No (n=147)	29.9	34.4	35.4
Married in Wave 1 (n=311)				
Spouse's health worse	Yes (n=36)	44.4	25.0	30.6
	No (n=275)	29.8	37.8	32.4
Spouse employed in Wave 1 (n=227)				
Spouse not working	Yes (n=20)	45.0	20.0	35.0
	No (n=207)	29.5	39.1	31.4
Spouse retired	Yes (n=4)	50.0	0.0	50.0
	No (n=223)	30.5	38.1	31.4

Table 6b

Correlates of Changes in the Subjective Probabilities of Working Full-time after 62
White Female Full-time Workers with Same Employer, Aged 57-59 in Wave 1

Changes since Wave 1		Increase in PrWrk %	Decrease in PrWrk %	No Change in PrWrk %
Full Sample (n=222)				
Health worse	Yes (n=32)	28.1	43.8	28.1
	No (n=190)	40.0	29.0	31.1
Job more difficult	Yes (n=127)	37.8	31.5	30.7
	No (n=95)	39.0	30.5	30.5
Married in Wave 1 (n=132)				
Spouse's health worse	Yes (n=25)	36.0	36.0	28.0
	No (n=104)	36.5	29.9	33.6
Spouse employed in Wave 1 (n=89)				
Spouse not working	Yes (n=21)	33.3	33.3	33.3
	No (n=68)	35.1	29.7	35.1
Spouse retired	Yes (n=17)	29.4	41.2	36.1
	No (n=72)	36.1	27.8	29.4

Appendix Table 1a

Changes in Subjective Probability Distributions of Working Full-time after 62
Full-time Workers with Same Employer, Aged 51-53 in Wave 1
Percentage Distribution
White Men (n = 375)

	Wave 1 Probability Distribution of Working after 62										
Wave 2 Distribution	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
0	14.9	2.7	2.1	1.1	0.3	2.9	0.5	0.5	0.8	0.3	1.1
.1	4.8	0.3	1.3	0.5	0.3	0.8	0.0	0.3	0.0	0.0	0.3
.2	0.8	0.3	0.8	0.3	0.0	0.5	0.0	0.0	0.0	0.0	0.8
.3	2.1	0.5	0.8	0.5	0.3	1.6	0.5	0.3	0.8	0.5	0.0
.4	0.5	0.0	0.3	0.0	0.3	0.8	0.3	0.0	0.0	0.0	0.0
.5	2.4	0.5	1.1	1.3	0.3	3.7	0.5	1.6	1.9	0.8	2.1
.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.3
.7	0.0	0.0	0.0	0.3	0.0	1.3	0.0	0.0	0.3	0.0	0.0
.8	0.8	0.0	0.3	0.3	0.3	1.6	0.3	1.3	2.7	1.3	3.7
.9	0.0	0.0	0.0	0.3	0.0	0.3	0.3	1.1	1.7	0.5	0.8
1.0	1.1	0.0	0.3	0.0	0.3	0.5	0.5	1.1	2.7	3.2	4.8

Appendix Table 1b

Changes in Subjective Probability Distributions of Working Full-time after 62
Full-time Workers with Same Employer, Aged 54-56 in Wave 1
Percentage Distribution
White Men (n = 353)

	Wave 1 Probability Distribution of Working after 62										
Wave 2 Distribution	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
0	15.3	0.6	3.4	0.3	0.9	3.7	0.0	0.6	1.1	0.6	2.6
.1	3.4	0.9	0.6	0.6	0.0	0.3	0.0	0.0	0.3	0.0	0.6
.2	0.3	0.9	0.9	0.0	0.3	0.6	0.6	0.9	0.6	0.3	0.3
.3	1.1	0.6	1.7	0.9	0.3	0.6	0.0	0.6	0.3	0.0	0.9
.4	0.3	0.3	0.6	0.0	0.3	1.4	0.0	0.0	0.0	0.3	0.0
.5	1.1	0.3	0.3	1.1	0.6	3.7	0.9	1.7	1.7	0.6	1.7
.6	0.6	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.6	0.0	0.3
.7	0.0	0.0	0.6	0.0	0.0	0.3	0.3	0.0	0.9	0.0	0.6
.8	1.1	0.3	0.3	0.6	0.0	1.1	0.9	0.9	2.9	0.6	1.4
.9	0.0	0.3	0.0	0.0	0.0	0.6	0.0	1.1	1.1	1.1	2.0
1.0	1.1	0.0	0.0	0.3	0.0	1.4	0.3	1.1	2.0	1.7	7.1

Appendix Table 1c

Changes in Subjective Probability Distributions of Working Full-time after 62
Full-time Workers with Same Employer, Aged 57-59 in Wave 1
Percentage Distribution
White Men (n = 265)

	Wave 1 Probability Distribution of Working after 62										
Wave 2 Distribution	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
0	11.3	1.9	3.0	1.9	1.1	3.0	0.0	0.4	0.0	1.1	4.2
.1	0.4	0.0	0.8	0.4	0.4	0.8	0.4	0.4	0.4	0.0	0.8
.2	1.1	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0
.3	0.4	0.0	0.0	0.8	0.4	0.8	0.4	0.0	0.0	0.0	0.0
.4	0.0	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.8
.5	2.3	0.8	0.8	0.4	0.4	3.4	0.8	0.4	1.5	0.0	1.5
.6	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.4	0.0	0.0	0.0
.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0
.8	0.4	0.0	0.0	0.4	0.4	1.5	0.0	0.4	2.3	1.5	0.4
.9	0.4	0.8	0.4	0.0	0.0	0.8	0.4	0.4	0.8	0.4	3.0
1.0	2.3	0.0	0.4	0.4	0.8	4.5	0.0	1.5	3.0	2.3	16.2

Appendix Table 1d

Changes in Subjective Probability Distributions of Working Full-time after 62
Full-time Workers with Same Employer, Aged 51-53 in Wave 1
Percentage Distribution
White Women (n = 312)

	Wave 1 Probability Distribution of Working after 62										
Wave 2 Distribution	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
0	14.7	1.9	1.0	1.0	0.6	1.9	0.3	0.6	0.3	0.3	1.0
.1	1.0	0.6	1.6	0.6	0.3	2.9	0.0	0.3	0.3	0.0	0.6
.2	1.6	0.3	1.0	0.3	0.3	1.3	0.0	0.0	0.6	0.3	0.0
.3	1.6	0.0	0.0	0.6	0.3	1.0	0.0	0.6	1.3	0.0	0.0
.4	0.3	0.0	0.6	0.0	0.3	1.0	0.0	0.3	0.3	0.0	0.3
.5	2.9	1.3	1.6	0.6	0.6	5.1	0.0	2.6	1.9	0.3	1.0
.6	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.0	0.3	0.0	0.3
.7	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.3	0.0	1.3
.8	0.3	0.3	0.3	0.0	0.0	1.6	0.9	1.9	2.2	1.0	3.2
.9	0.0	0.0	0.3	0.6	0.0	1.0	0.3	0.0	1.3	0.6	1.3
1.0	1.6	0.0	0.3	0.6	0.3	1.0	0.3	0.6	0.3	1.3	8.0

Appendix Table 1e

Changes in Subjective Probability Distributions of Working Full-time after 62
Full-time Workers with Same Employer, Aged 54-56 in Wave 1
Percentage Distribution
White Women (n = 279)

	Wave 1 Probability Distribution of Working after 62										
Wave 2 Distribution	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
0	14.7	1.8	2.5	0.7	1.1	2.5	0.7	0.4	1.4	0.0	2.2
.1	1.4	1.1	0.4	0.0	0.0	1.4	0.0	0.7	1.8	0.7	7.0
.2	2.2	1.1	0.7	0.7	0.0	0.7	0.0	0.4	0.4	0.0	0.4
.3	0.4	0.0	0.4	0.0	0.0	1.4	0.0	0.4	0.0	0.0	1.4
.4	0.0	0.0	0.7	0.0	0.7	1.1	0.0	0.0	0.0	0.0	0.0
.5	4.3	0.4	0.7	0.7	0.0	2.9	0.0	1.1	1.1	0.4	3.9
.6	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.7	0.4	0.0
.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4
.8	0.4	0.7	0.4	0.7	0.0	1.8	0.7	1.4	2.2	0.4	1.1
.9	0.0	0.0	0.0	0.0	0.0	0.7	0.4	0.4	0.7	0.0	1.8
1.0	1.8	0.7	0.0	0.0	0.4	2.2	0.0	1.1	2.9	1.1	9.0

Appendix Table 1f

Changes in Subjective Probability Distributions of Working Full-time after 62
Full-time Workers with Same Employer, Aged 57-59 in Wave 1
Percentage Distribution
White Women (n = 222)

	Wave 1 Probability Distribution of Working after 62										
Wave 2 Distribution	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
0	11.3	1.8	1.4	0.5	0.0	2.3	0.5	0.0	1.4	0.5	1.4
.1	1.8	0.0	1.4	0.0	0.5	0.0	0.5	0.5	0.9	0.0	0.9
.2	1.4	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.5
.3	0.5	0.0	0.5	0.9	0.0	1.4	0.0	0.5	0.0	0.0	0.5
.4	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
.5	5.0	0.0	0.5	1.8	0.9	3.2	0.5	1.8	2.3	0.5	1.8
.6	0.0	0.0	0.0	0.5	0.0	0.5	0.5	0.9	0.0	0.0	0.0
.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.8	0.0	0.0	0.5	0.0	0.0	1.8	0.5	1.4	1.4	0.5	4.1
.9	0.5	0.0	0.0	0.5	0.0	0.5	0.5	0.5	1.4	0.5	1.4
1.0	2.3	0.9	0.0	1.8	0.0	4.1	0.9	1.4	3.6	2.3	13.1

Figure 1a

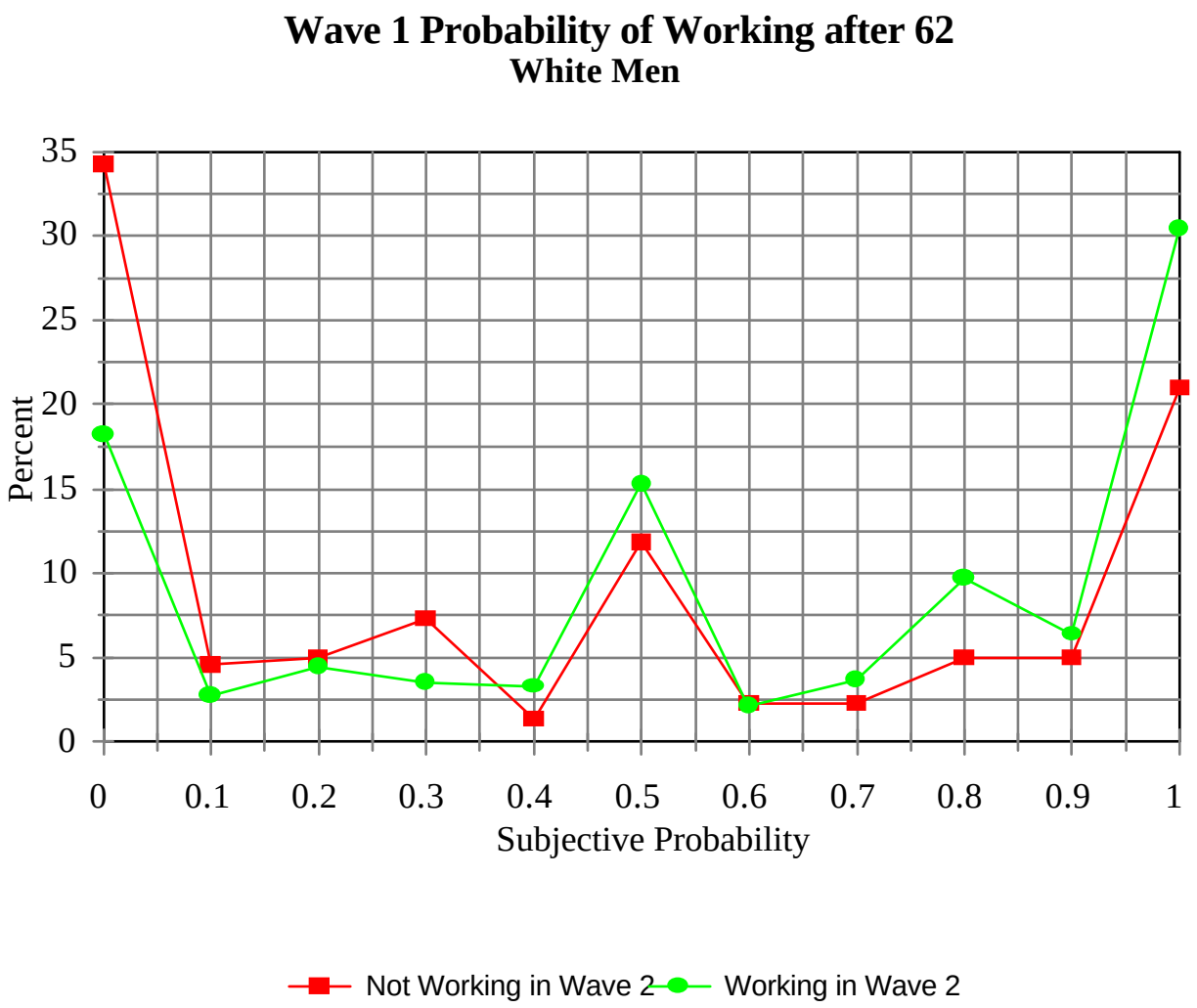
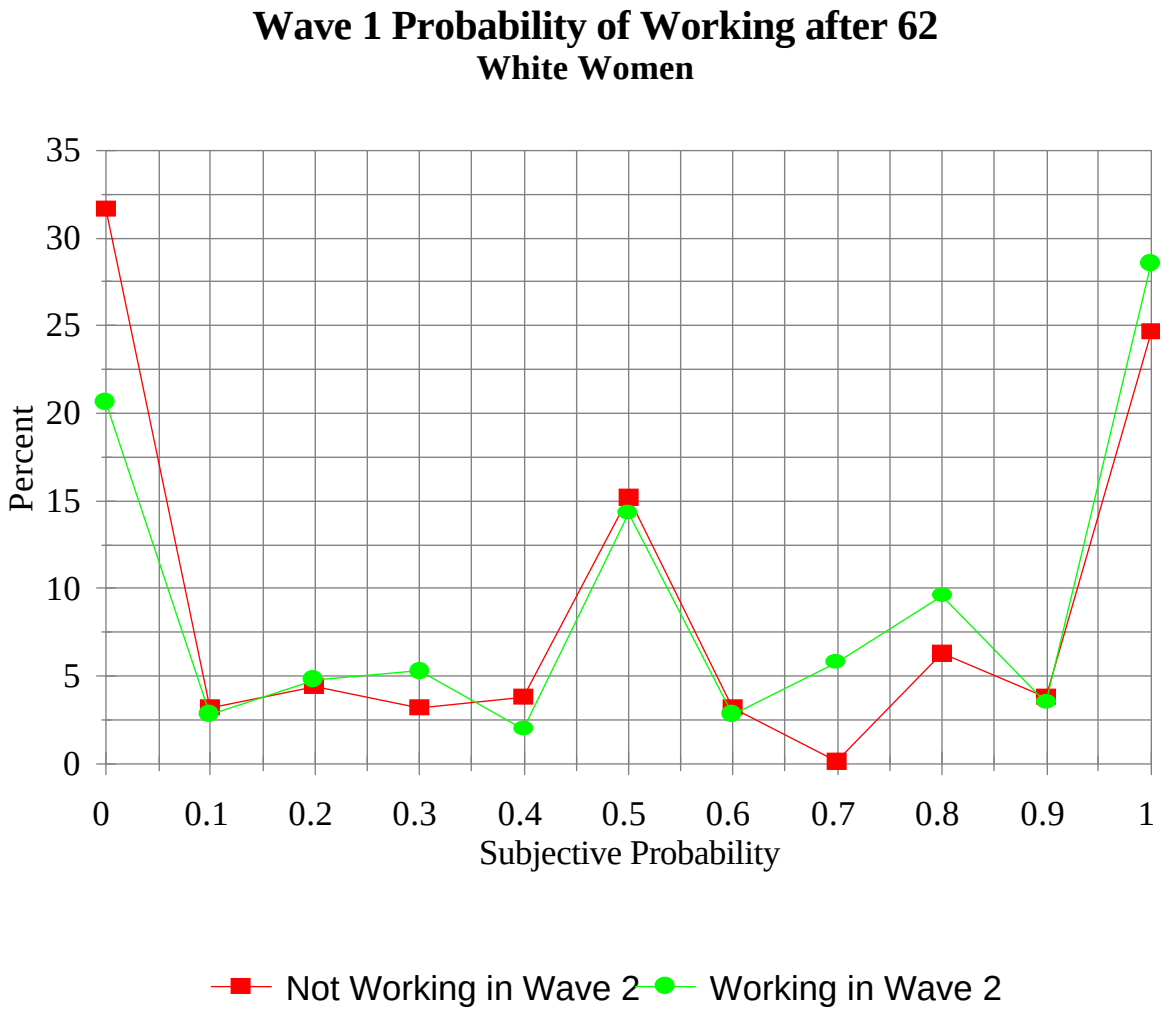

Wave 1 Probability of Working after 62
White Men
Percent
35
30
25
20
15
10
5
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Subjective Probability
Not Working in Wave 2
Working in Wave 2

Figure 1b


Wave 1 Probability of Working after 62
White Women
35
30
25
20
15
10
5
0
Percent
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Subjective Probability
Not Working in Wave 2
Working in Wave 2