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Does retirement planning affect the level of retirement satisfaction?

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Abstract

This paper analyzes the relationship between retirement planning and retirement satisfaction. Do individuals think about and plan for retirement? If they do, do they utilize financial planning services? If they plan, are they more satisfied with retirement than those who did not? Data for 1,781 retired individuals from the first wave of the Health and Retirement Study (HRS) are analyzed using an ordered probit model. The results indicate that thinking about retirement and attending planning meetings have a significant positive impact on satisfaction even when income, wealth, marital status and health are included as explanatory variables.

1. Introduction

As the United States population continues to age, retirement will come to the forefront as a public policy question as well as emerging as one of the primary financial planning issues. In this paper, the relationship between an individual's actions to plan for retirement and the level of retirement satisfaction is analyzed. Do individuals think about and plan for retirement? If they do, do they utilize financial planning services? Are those who plan more satisfied in retirement than those who did not?

Our paper contributes to the retirement literature by utilizing the economic models of saving and consumption to analyze the factors that affect the level of retirement satisfaction. As will be seen in the literature review, studies dealing specifically with retirement satisfaction have generally been limited to empirical papers by demographers, gerontologists and

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sociologists that study statistical relationships using specialized, non-representative samples. Our paper examines the factors that affect retirement satisfaction within the context of the life-cycle model of consumption behavior and uses a representative sample of older Americans drawn from the first wave of the Health and Retirement Study.

Section 2 examines earlier work related to savings, retirement decisions and retirement satisfaction by researchers in a variety of disciplines. The third section looks at a model of retirement satisfaction, whereas the fourth describes the data used to estimate the model. The results of the statistical analysis are contained in Section 5. Section 6 summarizes and concludes the study as well as raising some questions for future research.

2. Literature review

Research on retirement has been produced from a variety of perspectives. Each discipline provides a different viewpoint to the discussion of the issues surrounding retirement, as well as bringing to bear a different set of tools to analyze retirement. Economic research has focused primarily on public policy questions rather than examining these decisions from a personal planning perspective. Nevertheless, the economic models of savings and consumption provide a theoretical framework in which to analyze the behavior of individuals. Psychological and sociological studies look at the factors that affect retirement satisfaction but do not provide any theoretical structure for these relationships. As will be noted below, most of these papers utilize specialized samples in their empirical tests. In this paper, we will use the theoretical structure provided by the economists to motivate and explain the factors that affect retirement satisfaction.

Economic analysis has not directly addressed the factors that affect the level of retirement satisfaction; rather, it has considered related issues, including the adequacy of aggregate savings. Poterba (1996) and Hurd (1990) provide good overviews of the economics literature on savings decisions and retirement. As pointed out by Poterba (1996, p. 130), “the life-cycle model/permanent income hypothesis has been the dominant economic model for analyzing saving behavior.” In these models, based on the seminal works by Ando and Modigilani (1963) and Friedman (1957), individuals make decisions over their lifetimes to consume and shift consumption through saving in a way that will maximize lifetime utility.

Recent work by Bernheim, Skinner and Weinberg (1997) and Banks, Blundell and Turner (1998) has noted that there is often a drop—sometimes substantial—in household consumption after retirement. Life-cycle models imply that this observation could emerge from individual preferences: those who save less for retirement (and thus are able to consume less in that phase) simply have a higher rate of time preference than those who choose to save more for their retirement. In other words, differences in savings and retirement consumption are attributable to differences in tastes. An alternative hypothesis is that individuals may misperceive what their retirement period wealth will be, and are “surprised” by its (low) value when they do retire. Consequently, surprised households must align their consumption with the real value of their retirement wealth. Although these studies do not address the individual’s level of retirement satisfaction, it seems likely that the “surprised” individuals with fewer than expected financial resources are less satisfied with their lives than those whose expectations about their wealth position are more consistent with reality.

In one of the few financial planning papers that deal specifically with retirement satisfaction, Brunson, Snow and Gustafson (1998) focus on mid-life career changes in their model of retirement satisfaction of career and non-career military personnel. For this specialized sample, they find that their adequacy of financial planning measure has a significant positive impact on the level of satisfaction in retirement.

Psychological and sociological studies have directly addressed the question of retirement satisfaction, and indicate that a broad range of factors is associated with retirement. The individual's financial resources, retirement preparation and planning, perceived health, participation in leisure activities, occupation before retirement, relationships with family and friends, and the reason for retirement are all important factors in this research.

Sterns and Gray (1999) provide a broad view of the gerontology research on retirement issues. Focusing specifically on the issue of retirement satisfaction, Brunson (1996), Cooper (1993) and Cope (1990) provide reviews of earlier work. Recently, Dorfman (1989), Knesek (1992), Floyd et al. (1992), Reis and Gold (1993), MacEwen et al. (1995), and Gall, Evans and Johnson (1997) all find that retirement planning have a positive impact on actual or anticipated retirement satisfaction.

The consistency of the findings provides strong evidence of a relationship; however, the samples used limit the ability to generalize based on these results. For example, Dorfman's (1989) sample consists of 252 men and 199 women from two rural counties in Iowa. Knesek's (1992) sample contains 198 males and only 20 females that are employees at a large manufacturing facility in central Indiana. The sample used by Floyd et al. (1992) contains only 126 subjects from the Midwest, whereas the sample used in MacEwen et al. (1995) consists of 216 Canadians. Part of our contribution to this literature is to use a larger, more representative sample.

3. The model of retirement satisfaction

The life-cycle model of consumption and savings behavior provides a useful point of departure to think about retirement satisfaction. In this model, individuals maximize utility or satisfaction over the entire course of their lifetimes. Decisions about savings made early in the life-cycle help determine the resources that are available over later, retirement years.

The life-cycle model implies that a retired individual's utility is a function of her ability to consume goods and services reflected in her current income and accumulated net worth. As noted in the literature review, economists tend to study the role of consumption whereas sociologists, gerontologists and psychologists suggest that other personal factors are also likely to be important. Marital status, health status, level of education, whether the individual was forced to retire, and pre-retirement occupation as well as the retirement planning should have an impact on the level of retirement satisfaction.

If some individuals plan more than others and make conscious decisions concerning their retirement, it is reasonable to expect that these individuals are more likely to achieve a higher level of satisfaction than those who do not plan. Another way of expressing this is that those who plan are less likely to be in the "surprise group" who have to make significant (downward) adjustments to their consumption pattern upon retirement.

Table 1
Frequencies for planning and statisfaction variables

	Thought about retirement				Attended meetings		Totals
	A lot	Some	A little	Hardly at all	Yes	No	
Very satisfied	69.1%	50.0%	41.7%	24.8%	65.0%	36.7%	782
Moderately satisfied	26.9%	41.8%	44.8%	37.8%	28.6%	38.4%	640
Not at all	4.0%	8.2%	13.5%	37.3%	6.4%	24.9%	359
Totals	525	316	163	777	454	1327	1781

To determine, at least tentatively, whether this relationship is present in the HRS data (that is described in more detail below), we provide a cross tabulation of the levels of satisfaction in retirement with some measures of retirement planning. These relationships are shown in Table 1. The frequencies shown there reveals that individuals who plan—as indicated by their thinking about retirement and attendance of retirement planning sessions—are more likely to be very satisfied in retirement than those who did not think about retirement and attend planning meetings. This tabulated information is obviously not conclusive; nevertheless, there does seem to be a link between planning and satisfaction. Of those who had thought "a lot" about retirement, 69.1% were "very satisfied" compared with only 24.8% "very satisfied" respondents who had thought "hardly at all." Similarly, only 4% of those who thought "a lot" were "not at all satisfied" compared with 37.3% of those who had thought "hardly at all." Of those who attend meetings, 65% are "very satisfied" compared with only 36.7% of those that did not attend meetings.

Whether the planning-satisfaction relationship changes in a multivariate setting is the subject of the statistical analysis that follows. Other factors that may be strongly influencing the level of satisfaction that a retiree experiences include economic factors, such as income and accumulated wealth, as well as non-economic factors such as health status, existing familial relationships and the reasons for retirement.

4. The HRS data and methodology

The HRS was specifically designed by an interdisciplinary panel to gather a broad range of information pertinent to the retirement decision. (The National Institute on Aging (NIA) is the sponsoring organization for the HRS and the data are collected by the Institute for Social Research at the University of Michigan. Juster and Suzman (1995) provide a useful introduction to the survey in a supplemental issue of the *Journal of Human Resources* devoted to the HRS. Current information about the data collection process and the data itself can be downloaded from the Institute for Social Research web site, http://www.umich.edu/~hrswww/.) The survey includes questions on retirement planning, net worth, income and employment history as well as health status and familial relationships. Alternative data sets such as the Panel Study of Income Dynamics and the Federal Reserve's Surveys of Consumer Finances were designed to focus on households' economic decisions, and accordingly, do not include questions about many important non-economic factors.

In this paper, only the first wave or year of the HRS data is used, so the analysis cannot address questions about the long-term impact of retirement planning on individual satisfaction. Nevertheless, a significant number of individuals in the survey have retired, and have had time to draw (at least some) judgment about their level of personal satisfaction. The first wave surveys were collected in March 1992. To be age-eligible at that time a person had to be between 51 and 61 years of age. Partners were also interviewed so that some of the respondents are not "age eligible." From the total 12,652 total respondents, 1,804 answered that they were completely retired. Of those, 1,781 answered the questions concerning the level of satisfaction with retirement and are included in our analysis.

Questions concerning the level of retirement satisfaction are answered by everyone and, thus, reflect only the respondent's perception even if the respondent is one member of a household. The net worth and income variables are collected on a household level, so that the income and wealth of both the respondent and partner (if there is one) is included. Income from all sources includes pensions and social security, investment income and welfare payments along with wages and salaries. Net worth includes both financial assets and housing equity. The respondent's race is coded as one if white and zero otherwise. "Married" is used to designate those who indicate they have partners of the same or opposite sex. The education level is measured in years of education. Health status is a self-reported scale. More complete definitions of these variables are presented in Table 2, as well as descriptive statistics for these measures.

Because the focus of this study is the impact of planning on retirement satisfaction, a closer look at questions on these subjects may be instructive. We can think of a possible sequence of steps that a respondent might follow in attempting to deal with the decisions concerning retirement. First, did this individual anticipate the coming of his or her retirement? These factors are addressed in the survey by a question that asks whether the respondent had thought about retirement, and the response indicates the extent to which the person had thought about this question: a lot, some, a little or hardly at all. Next, the survey considers whether the individual had taken steps to prepare for retirement, by some formal planning process. This is considered in the HRS in a question that inquires as to whether the respondent had attended meetings about retirement planning (yes or no).

Obviously, thinking about retirement is not synonymous with planning for retirement, nor is attending meetings on retirement planning the only way to get professional advice. Nevertheless, it is difficult to see how you could plan for retirement without thinking about it and attending meetings is a low cost means to obtain professional advice. The "thought about" and "attended meetings" responses should have a positive impact on retirement satisfaction if these variables are correlated with the process of making reasonable decisions. Finally, the respondents who have retired are asked as to their level of satisfaction with their life in retirement: very satisfied, moderately satisfied or not at all satisfied with retirement.

5. An ordered probit model of retirement satisfaction

As can be seen in the manner that the question about retirement satisfaction is posed, respondents provide information about their level of satisfaction based upon an ordinal

Table 2
Variable definitions and descriptive statistics

Variable name	Variable definition		Descriptive statistics
RETSATIS	Coded response to the question, all in all, would you say that your retirement has turned out to be:		1.237
	Not at all satisfied	0	(.764)
	Moderately satisfied	1	
	Very satisfied	2	
RETTHINK	Before you retired, how much had you thought about retirement?		
	Hardly at all	0	
	A little	1	1.331
	Some	2	(1.300)
	A lot	3	
RETPLAN	Binary variable that takes on a value of 1 if the respondent attended retirement planning meetings and zero otherwise.		.2549 (.436)
RETFOR	Binary variable that takes on a value of 1 if the respondent replied he/she was ''Forced into'' or ''Part wanted, part forced'' into retirement and zero otherwise.		.4756 (.4995)
HLTH	This is a binary variable based upon the coded response to the question: I'm going to read you a list of reasons why some people retire. Please tell me whether, for you, poor health was		
	Not at all important	0	.4677
	Somewhat important	1	(.4991)
	Moderately important	2	
	Very important	3	
	If the response was 1, 2, or 3 then the variable equals 1; if 0 was the response then the variable is set to 0.		
HHINC	Total household income from all sources including earned income, investment income, pensions and transfers payments.		$36482 (31653)
TOTNW	Total household net worth includes both home equity and non-home equity. Non-home equity is the sum of the household's holdings of financial assets such as cash, stocks, bonds, CD's, IRA's and Keogh accounts as well as the value of real estate held for investment purposes. It does not include an imputed value of defined benefit pension funds or the assets in pension accounts such as 401(k)'s. Nor does it include an imputed value for the claim on Social Security benefits.		$229815 (426239)
WHITE	Binary variable that takes on a value of one if the respondent is white and zero otherwise.		.7198 (.4492)
MALE	Binary variable that takes on a value of one if the respondent is male and zero otherwise.		.6036 (.4892)
MARRIED	Binary variable that takes on a value of one if the respondent has a partner and zero otherwise. ''Partner'' refers to a spouse or live-in companion of the same or opposite sex.		.8147 (.3886)
EDYRS	Number of years of education completed.		11.58 (3.28)

ranking of the choices, choosing the selection that most closely corresponds to their true level of satisfaction. Obviously there is no (cardinal) measure to gauge actual satisfaction, but a regression approach that can provide useful insights about this type of question is the ordered probit model (see Zavoina and McElvey, 1975). This model is a latent regression procedure

that assumes that an underlying measure of satisfaction exists, but that its value cannot be observed. Thus, the model that is estimated is

$$y^* = \beta'\chi + \epsilon, \tag{1}$$

where y^* is an unobserved dependent variable; β' is a coefficient vector, χ is a vector of independent variables and ϵ is a stochastic error term. Instead, we observe values of y, that correspond to this person's level of satisfaction, with values starting at 0 (not at all satisfied) and increasing by units of one as satisfaction increases. These responses correspond to a set of parameters, usually labeled μ's, that partition the distribution of y^*. The estimation procedure thus determines the probability that the value y^* falls into a range of the μ_i's as established by the observed values of y (in this case, the responses to the questions of retirement satisfaction). This model assumes that ϵ is normally distributed and the mean and variance of ϵ are normalized to zero and one, respectively.

5. Statistical findings

The estimates of the ordered probit model of retirement satisfaction are found in Table 3, with the results of the basic model shown in column (a), and then additional estimates that incorporate the interrelationship between planning and forced retirement are shown in columns (b) and (c). The central finding from these estimates is that planning for retirement, as measured by how much the respondent thought about retirement and whether the person attended retirement planning meetings, is positively related to the level of retirement satisfaction. This is true independent of household characteristics or economic status.

Looking at the other variables in the equation, the results are generally consistent with the findings of prior studies. Individuals in households with higher incomes and larger net worth are, predictably, more likely to be satisfied. Respondents who have partners (married or otherwise) are also significantly more likely to be satisfied. Other characteristics are unrelated to the level of satisfaction: males are no more likely than females to be satisfied; whites are no more likely than non-whites to be satisfied; and those with more education do not have greater levels of satisfaction than those with less. The lack of significance for the education variable may be due to the correlation between education and other significant factors such as income and health. Some factors do reduce the likelihood of satisfaction. In particular, those individuals who were forced to retire either by poor health or by their employer are less likely to be satisfied.

In some cases, the lack of satisfaction for those forced to retire may be related to planning—or the inability to plan—and could be connected to the ability to anticipate the timing of retirement, and make adequate preparations for it. To investigate these questions, additional estimates have been produced and can be found in columns (b) and (c) in Table 3. These estimates include interaction terms between the planning variables (RETTHNK and RETPLAN) with the retirement cause variables: health condition (HLTH) and forced retirement (RETFOR) variables.

Given the results from these estimates, it is clear that individuals who had the opportunity to plan in the face of either poor health or a forced retirement are more likely to be more

Table 3
Ordered probit estimates of retirement statisfaction ($n = 1781$)[a]

	Basic model (a)	Impact of involuntary retirement	
		Employer forced (b)	Health forced (c)
Constant	1.00	1.10	1.13
	(7.037)	(7.337)	(7.534)
	***	***	***
MALE	−.025	−.023	−.020
	(0.410)	(0.062)	(0.324)
WHITE	.043	.0435	.045
	(0.625)	(0.069)	(0.647)
MARRIED	.277	.275	.267
	(3.475)	(3.447)	(3.359)
	***	***	***
TOTNW	.289xe-06	.280xe-06	.279xe-06
	(2.802)	(2.700)	(2.717)
	***	***	***
HHINC	.274xe-05	.257xe-05	.264xe-05
	(2.389)	(2.221)	(2.305)
	**	**	**
EDYRS	.010	.011	.011
	(0.977)	(1.116)	(1.051)
RETTHNK	.186	.117	.112
	(6.972)	(3.207)	(3.105)
	***	***	***
RETPLAN	.204	.269	.216
	(2.646)	(2.785)	(2.300)
	***	***	**
HLTH	−.591	−.584	−.786
	(7.543)	(7.462)	(7.961)
	***	***	***
RETFOR	−.764	−.920	−.759
	(9.729)	(9.039)	(9.714)
	***	***	***
RETTHNK interaction	—	.146	.156
		(2.769)	(3.136)
		***	***
RETPLAN interaction	—	−.145	−.019
		(0.947)	(0.122)
μ^1	1.425	1.432	1.435
	(27.710)	(27.757)	(27.885)
Log likelihood ratio (χ^2)	876.2	884.3	886.5

[a] Asymptotic t-statistics in parentheses; ***, **, *, indicate statistical significance at the 1%, 5%, and 10% levels, respectively.) The two interactions (RETTHNK and RETPLAN) are with employer-forced retirement in column (b) and health-forced retirement in column (c).

satisfied. It is interesting to note that only the "thinking about" variable is significant (and the "attended meetings" variable is not) in these estimates. The coefficients on both the original planning and retirement cause variables all yield the same implications and statistical significance as when the interaction terms are not included. All this simply underscores the impact of preparation on the retiree's level of satisfaction.

One problem that could arise in this investigation is the impact self-selection with respect

Table 4
Estimates of planning action: think about and attend meetings ($N = 1781$)

	Ordered probit estimates: think about retirement	Binary probit estimates: attend meetings
Constant	−.185 (1.282)	2.537 (12.154)
MALE	.386 (6.507)***	.237 (3.110)***
WHITE	.099 (1.431)	−.088 (0.998)
MARRIED	.180 (2.196)**	.249 (2.176)**
TOTNW	−.124xe-06 (1.915)*	.920xe-07 (1.058)
HHINC	.267xe-05 (3.090)***	.211xe-05 (1.758)*
EDYRS	.036 (3.656)***	.113 (5.516)***
RETTHNK	—	.220 (7.077)***
HLTH	−.311 (4.364)***	−.406 (4.332)***
RETFOR	.890 (12.555)***	−.073 (0.764)
μ^1	.291 (13.422)	—
Log likelihood ratio (χ^2)	552.3	351.1

[a] Asymptotic *t*-statistics in parentheses: ***, **, *, indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

to planning on the level of retirement satisfaction. In this case, self-selection would imply that the individuals who plan are more likely to be satisfied. This could be a very real problem, and the parameter estimates for the planning variables in satisfaction equation, as found in Table 3, would overestimate the effects of planning on satisfaction. Investigations of this, including estimates of a selection corrected ordered probit model and a modified version of the satisfaction estimates, indicate little or no evidence of self-selection. In the corrected model, a binary measure of the level of satisfaction and a similar measure of either the "thinking" or the "going to meetings" variables are used. To aid the understanding of these relationships, Table 4 presents separate estimates of ordered probit models of the "thinking about retirement" variable and probit estimates of the "attended meetings" variable.

6. Summary and conclusions

This paper looks at the relationship between planning and the level of retirement satisfaction. In the context of a basic utility maximization model, retirement satisfaction is expected to be related to financial as well as non-financial variables. Data from the HRS

provides a large, representative sample to test the hypothesized relationship between retirement planning and retirement satisfaction. The results from the ordered probit model indicate that thinking about retirement and the attendance at planning meetings are positively related to retirement satisfaction; moreover, planning activities imply a higher likelihood of satisfaction even for those whose retirement decisions were not made voluntarily (either through health problems or an employer mandate).

In addition to shedding some light on the impact of planning on retirement satisfaction, this paper introduces an important new data set to those studying retirement behavior from a financial planning perspective. Those interested in individual financial decisions will find the Health and Retirement Study a rich source of information on all aspects of financial decision making by older Americans.

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