

How Do You Choose a Retirement Age?

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Abstract

An individual's decision to retire is a major, life-changing resolution; this choice affects the individual, his or her family, the organization from which they are retiring, and society as a whole. In order to better understand, affect, and predict this important decision, the process leading up to it needs to be better understood, both the influences on it and the resulting pattern of retirement ages. The items influencing an individual's decision can be categorized into two distinct subsets: one subset represents boundedly rational allocations of scarce individual and family resources, and the other subset represents institutional influences, social and organizational-level standards, and norms. This paper begins by reviewing literature that has investigated these two sets of effects on the individual decision-making process. Two sets of propositions, based on known determinants of retirement, are then developed. Finally, recommended methods, including settings, variable measurement, and possible methods of data analysis for completing the proposed study are provided.

Introduction

"One of the key issues and unanswered questions for the twenty-first century is what will happen to the age pattern of people withdrawing from their working careers and moving into retirement" (Rappaport and Schieber 1993, p. 6). To address this question it is important first to recognize that "the age pattern" of retirement is a compilation of individual decisions. Second, these individual decisions are important not only to society as a whole, but also to the individual making the major life and career choice, to the person's immediate family, and

to the company from which he or she will retire. As stated in the foreword to *Flexible Retirement* (Mathiasen 1957, p. 5), "The National Committee on Aging believes that a satisfactory solution of the employment and retirement problems of older workers is one of the great economic and social challenges of our time. The challenge is presented not only to the business and industrial leadership of the country but to organized labor, government, the community at large, and every individual worker." Finally, it is important to note that, in spite of numerous studies and papers investigating various aspects of this process, an individual's retirement decision still remains a fundamental but unanswered question (Feldman 1994; Rappaport and Schieber 1993; Beehr 1986; Mathiasen 1957).

To address this key unanswered question, efforts should be refocused to better understand the retirement decision process and consequential employment/retirement pattern. Two distinct theories regarding individual decision making, Theory of Bounded Rationality and New Institutionalism, suggest quite different influences and procedures when making a retirement decision. Economic approaches based on Bounded Rationality have been used for almost four decades to study individual behavior (Becker 1976; Ierulli, Glaeser, and Tommasi 1995). According to these economic models, when making a decision, individuals choose behavior that maximizes outcomes, given constrained, scarce resources of money, time, and effort that must be allocated (Becker 1976; Ierulli et al. 1995). Thus, when an individual is making a major life decision, such as when to retire, he or she would analyze each of these constraints and choose the most satisfying option within the limits imposed.

New Institutionalism addresses an individual's decision-making processes in a very different way from the

economically based Bounded Rationality. This theory especially speaks to the decision process when individuals face a substantial number of alternatives that exceed their cognitive limits, have incomplete information about their choices, and must incur high costs in order to investigate their situation in greater detail to be able to apply a boundedly rational type of analysis (DiMaggio and Powell 1991). This is exactly the situation a person is in when choosing a retirement age. Determination of his or her financial condition alone is complicated, time consuming, and very uncertain. The individual must know or have calculated the amount of retirement income available from all sources and must “guesstimate” the length of time he or she expects to live and the amount of expenditures he or she expects to incur in the future. This is where New Institutionalism enters; it provides an alternative process in which the person follows expected social norms when making such decisions.

A study of employees’ decision-making processes and their actual retirement decisions will thus provide valuable information about both of these theories. Such a study can also have important managerial and public policy applications. Both theories can be used by organizations to address and influence behavior, though through very different techniques and approaches. Bounded Rationality has long been used by management to influence employee decisions and behavior through financial incentives or penalties. Alternatively, New Institutionalism implies influencing employees through corporate or general social norms and symbols. Knowledge of this process would certainly be beneficial with regard to public policy, and redesign of the Social Security and Medicare systems as well.

The purpose of the proposed research is to investigate the retirement decision, both the age chosen and influencing factors. The unit of analysis should be the individual members of an organization or association. This study should investigate the two sets of major factors, each suggested by different explanatory theories, that likely influence the retirement decision. If the research shows that employees predominately use one of the two specific decision-making process over the other one, support will certainly be lent to the prevailing theory.

Theory and Literature Review

Every individual makes many choices each day, choices between different personal activities, choices regarding work activities, choices about meals, and so on. Individuals also occasionally make major life decisions,

such as the decision to retire or the decision to pursue additional education instead of immediate employment. What is the process that an individual uses to analyze his or her choices and that makes it possible to select among different options? Two distinct theories that address individual decision making, the Theory of Bounded Rationality and New Institutionalism, suggest different steps and influences with regard to this process.

Background Influences on Retirement

Using either decision-making process alone or a combination of the two, individuals decide when to retire. The retirement decision has resulted in a trend of earlier and earlier retirement among men since the 1930s; in 1937 the labor force participation rate of men age 60 and over was 61.5%, but by 1990 this participation rate had steadily fallen to 27.6% (Levine and Mitchell 1993). The same trend is not apparent for women, perhaps because of relatively recent changes in labor participation rates among women of all ages. The labor force participation rate of women age 60 and over is currently about 66% of the male participation rate, or 18%, and has changed by less than 5% from 1963 to 1990, with some years slightly up and other years slightly down (Levine and Mitchell 1993). Not only is retirement age changing over time and does it differ by gender, but “retirement” may also be defined by several different triggering events. The triggering events or various ways to assess the state of “retirement” include being employed less than full time (known as partial or phased retirement), receiving a pension, forced or “implied” mandatory retirement, early (prior to age 65) as compared to normal retirement, and assumption of the person that they are “retired” (Levine and Mitchell 1993; Beehr 1986). The definition or state of retirement that is most appropriate depends on the propositions or hypotheses to be investigated and must thus be carefully chosen to be consistent with the design of the study.

Several employee characteristics might be significant influencing factors on the retirement decision. First, as noted above, gender seems to have an important effect, since historical retirement trends are different for men and women (Levine and Mitchell 1993). Second, marital status and the retirement status of the spouse are likely important influences due to their effect on the individual’s post-retirement financial state and plans and activities (Feldman 1994). Next, the pre-retirement employment status of the individual should have an important influence on the retirement decision. If the

individual is already unemployed, or fears he or she may soon be, there is little reason not to retire! However, deciding to retire when currently employed means foregoing future income unless a retirement plan is available. Finally, the highest level of education attained by the individual is another influencing factor on this decision. Level of education will likely affect the person's post-retirement plans and activities as well as his or her pre-retirement personal savings, both planned and actual.

There are also several employer or industry-specific factors and environmental factors that will influence an employee's retirement decision. The first organizational-specific characteristic that modifies retirement decisions is whether the employer sponsors a retirement plan(s). This factor has been shown to have an effect on employees' retirement decisions (Karoly and Rogowski 1994; Levine and Mitchell 1993). Next, the organizational and industry characteristics that describe the physical, intellectual, and social demands of a job have been shown to influence retirement decisions (Feldman 1994). One set of such factors includes the industry and profession from which a person is retiring, an individual's management responsibilities at the time the retirement decision is made, and the size of the firm. In addition to influencing job demands, the size of a company also has a strong relationship with the firm's provision of security benefits, such as retirement plan(s), health plan(s), and post-retirement health plan. Next, the regional unemployment rate will affect a retirement decision; the unemployment rate alters employees' future employment opportunities, real or perceived. Macroeconomic indicators such as growth rates, inflation rates, and the other leading economic indicators also likely influence the retirement decision by affecting an employee's financial uncertainty for the post-retirement years (Feldman 1994). Finally, the geographic location of the individual at the time the retirement decision is made will influence the individual's post-retirement plans and activities as well as increase (or reduce) the environmental influence of other observed retirees and their activities. Within this framework of known environmental influences and the known trend of retirement ages, however, we still know little about the process a particular employee uses to choose a retirement age.

Economic Approach to Decision Making

One of the major theories regarding this decision-making process is based on individual economic analysis

and is known as the Theory of Bounded Rationality (Brickley, Smith, and Zimmerman 1997), a real-world version of the Theory of Rational Choice. According to this theory each person is faced with a list of alternatives when making a decision, where the list of possible alternatives is limited by the person's imperfect knowledge and foresight and by the total of his or her past experiences and those of other known people in similar situations. The costs and benefits associated with each option, known as *incremental costs and benefits* (Brickley et al. 1997, p. 15) are determined by an individual who is making a major life decision and are weighted by the person's specific utility value (personal preference) for each alternative. These weighted costs-benefits for each alternative are then compared, and the limited set of options are ranked. The person then makes a choice based on this ranking, or risk comparison in an uncertain world where the exact costs-benefits of each decision are not completely known, of the most "satisficing" solution (lowest-risk, highest-utility solution that is satisfying to the person and is within their realm of experiences/appropriate solutions) (Brickley et al. 1997).

Beginning in the 1960s economists, especially Gary S. Becker, began to greatly expand the use of economic approaches to the study of individual behavior (Ierulli et al. 1995). To use an economic approach for the study of individual conduct, several assumptions have to be made; Becker and colleagues base their work first and foremost on the assumption that individuals want to choose behavior that maximizes outcomes or ends (Becker 1976; Ierulli et al. 1995). The second major assumption made in the study of individual behavior is that individual preferences are defined and stable over time; these preferences relate to the fundamental aspects of life, including health, prestige, pleasure, and benevolence (Becker 1976). These two primary assumptions are modified by other presumptions, including that (1) individuals have limited amounts of resources, (2) there are opportunity costs of using scarce resources, and (3) information is costly to acquire, thus resulting in use of incomplete information to make decisions (Becker 1976; Ierulli et al. 1995). When this full set of assumptions is compared to those stated for the Theory of Boundedly Rationality, it is clear that the two are basically the same; Becker's economic approach to the investigation of individual decision making is a direct application of boundedly rational theory to individual behavior. When the modifying presumptions are considered in conjunction with an individual's desire to maximize outcomes, the major assumption then becomes that individual's desire to choose the best solution given

their preferences and scarce resources. These scarce resources, which constrain individual's choices and which must be allocated each time someone makes a major decision, are money, time, and effort (Becker 1976; Ierulli et al. 1995).

An economic approach based on these assumptions has been successfully applied to study several areas of human behavior. In particular, Becker and his students have studied crime and punishment, consumer behavior, fertility, marriage and divorce, discrimination, religion, education, and the allocation of time (Becker 1976; Ierulli et al. 1995). Two specific areas of application, the study of Human Capital and of Household Production, have some application to an individual's retirement decision. The main idea of the Human Capital approach is that individuals invest in their own worth by securing education and training in return for which they expect to earn higher wages throughout their careers (Becker 1976; Ierulli et al. 1995). This theory demonstrates the relationship between hours of work and wages earned over time, where both initially rise at younger ages, with hours rising faster, and then both decline toward the end of a career (Ierulli et al. 1995). A spin-off theory from the Human Capital philosophy is Household Production, which is based on the idea that individuals can invest in household capital as well as market-related capital; both are subsets of Human Capital (Ierulli et al. 1995). The main idea behind this approach is that a household, or group of individuals, engage in joint decision making and must jointly allocate their limited resources into market, household, and leisure uses. Resources are not only limited, but also constrained. Thus, money, time, and effort spent in market-related earning activities are not available for household or leisure uses and vice versa (Ierulli et al. 1995). This theory has been used to investigate marriage, allocation of time, allocation of time and goods, smaller families, and women's labor market participation (Ierulli et al. 1995).

The earnings life cycle for individuals has been investigated, both theoretically and empirically, using Human Capital Theory (Ben-Porath 1967; Mincer 1994). The assumptions and conclusions applicable at the end of the earnings cycle, at retirement or death, are the following: (1) the stock of human capital, K , is subject to a given rate of deterioration, δ ; (2) the fraction of the available stock of human capital allotted to increasing the same, s_t , is 0 in this phase of life because the existing stock is too big and, optimally, the individual needs to disinvest, (3) phase three or time T is a date of compulsory retirement, an exogenously determined variable; and (4) the reason individuals disinvest in this phase (assumption 2) is that the

demand price of human capital in this phase is no longer positive (Ben-Porath 1967). Several of Ben-Porath's conclusions have been empirically tested; some of the most recent results verified by Mincer (1994) have shown that human capital investment is the primary factor underlying the slope of the U.S. wage profile and that the earnings life cycle model is a good predictor of interpersonal differences in human capital investments, where, for example, persons with more schooling are inclined to invest in more job training and when demand for human capital increases, school enrollment and job training (now both more profitable endeavors) both increase (Mincer 1994). Unfortunately, as noted earlier by Ben-Porath (1967), at least two of the major assumptions with regard to the end of the earnings life cycle still need to be studied; the rate of deterioration δ needs to be investigated as well as the impact of an endogenously determined end of earnings life cycle, T , as will happen when the impact of diverting time to leisure is considered. Investigation of these two assumptions would greatly enhance the study of individual retirement decisions.

The allocation of time among work, leisure, and household responsibilities has been investigated using the Theory of Household Production (Becker 1976). Time allocation is investigated using a "full income approach," where the value of time is treated as a good based on its money equivalent; total available time is then equal to time spent working or earning money and time spent on consumption or all other nonworking activities (Becker 1976). Time spent on consumption is determined by analyzing the importance of forgone earnings by comparing the amount of time used per dollar of goods and the cost per unit of time. The effect of two sources of income, wages and all other income, is also considered in the model, where actual total wage, W , is the component that influences the cost per unit of time (Becker 1976). With regard to a retirement decision and the resulting significant change in the allocation of time between leisure and work activities, Becker's (1976) analysis of hours of work indicate that (1) if an individual will maintain total income but have a compensated drop in earnings with other sources of income replacing earnings, (2) this will result in a decrease in the price of commodities with relatively large forgone earnings costs (time-intensive nonwork activities), and (3) the individual will thus decrease hours of work and substitute hours of leisure for them. This model of the allocation of time has been applied successfully, both theoretically and empirically, to many components of household production, including number of children, hours worked, affect on hours

worked of changes in taxation of wages, and transportation costs (Becker 1976).

The assumption of a mandatory retirement age is one of the major premises of the earnings life cycle (Ben-Porath 1967). The use of and need for a mandatory retirement age has been studied using the economically based approach of agency theory (Lazear 1979). The author argues that when an employee is hired, either an explicit or implicit contract is made with the employer. This contract is designed to maximize the outcome for both the employee, who cares about the present value of all wages to be earned over his or her working lifetime, and for the firm, which wants to encourage workers to perform at a higher level and not shirk. To maximize the outcomes for both, the wage structure is designed to pay a worker less than the value of his or her marginal product in the early years of employment and provide wage increases that, by the end of the working life cycle, will produce a total stream of employment income that provides the worker with a total accumulated value equal to that expected at time of hire. The result is that, at the end of the working life cycle, the employee is earning more than his or her value of the marginal product—the worker is being overpaid for current levels of productivity. Consequently, according to agency theory, the employee will want to continue working and receiving “excess wages” while the firm will feel that the working life cycle is over and that previously underpaid wages have been compensated; thus, the need for a mandatory retirement age is justified to define the end of the working life cycle, the end of the contract. The author empirically tested his model of the use of a mandatory retirement age by firms, yes versus no, and found that determinants of such use, as expected, included job tenure, rate of wage growth, high levels of education, and existence of retirement plans.

Institutional Approach to Decision Making

There are many limitations, both theoretical and practical, with the use of economic approaches in studying individual decision making, especially with regard to a retirement decision. First, as many critics of the economic approach have noted, these models are based on several assumptions or generalizations that may not be applicable in a given situation (Zey 1992). They assume that all individuals make decisions based on rational action and based on their own self-interest. However, individuals may also make decisions based on habit,

grounded on anchored initial values, or due to emotions; also, decision-making, especially with regard to major decisions, is often group- or family-based. Second, some of the assumptions on which economic approaches are based can never be tested, let alone proven, empirically. The concept of “utility,” both maximizing and satisfying utility, is very subjective and cannot be operationalized. However, the major premise behind all economic approaches to decision making is that people wish to make the optimal or most satisfying decision based on their utility value (preference) for certain outcome characteristics (Becker 1976; Ierulli et al. 1995; Brickley et al. 1997). Also, Becker’s work (1976) is based on the additional assumption that utility values or preferences are stable over time. If the basic assumption/concept of utility value cannot be operationalized and thus cannot be empirically tested, how can we know when, if ever, this assumption is reasonable? Is it reasonable to assume that this concept is stable over time?

With regard to the retirement decision, some of the assumptions and conclusions discussed in the economic literature review section either have never been proven or have been disproved. In particular, with regard to the use of Human Capital Theory to investigate the earnings life cycle, the effect of loosening or eliminating the mandatory, exogenously determined, end of the earnings life cycle, T , has not been explored (Ben-Porath 1967). However, the use of and need for a mandatory retirement age, explored with an agency-theory-based economic approach by Lazear (1979), is not supported by labor statistics (Levine and Mitchell 1993). Use of a mandatory retirement age was made illegal in most circumstances, during the late 1970s and early 1980s, with amendments to the Federal Age Discrimination in Employment Act. However, unlike Lazear (1979) would predict and Ben-Porath (1967) would assume, eliminating the mandatory retirement age did not encourage employees to take advantage of the situation and continue working and earning higher-than-deserved wages; instead, the labor force participation rate of men age 60 and over fell from 32.2% in 1980 to 27.6% in 1990 (Levine and Mitchell 1993). Possibly more enters into a retirement decision than a strict economic approach can address.

Another major theory regarding this decision-making process argues that individuals make major life decisions based on expected social norms as defined by rules, rituals, and symbols used by the organization where they are employed, the government, or society as a whole. This theory is referred to as New Institutionalism; it argues that individuals default to expected social norms due to “cognitive limits, incomplete information, and . . . transaction

costs” (DiMaggio and Powell 1991, p. 3). According to this theory, individuals have a cognitive limit on the number of possibilities they can consider and evaluate, a limit more restrictive than that implied by bounded rationality. In addition, individuals face a decision with incomplete information about each choice and its consequences. This obviously leads to uncertainty and an inability to make an accurate risk comparison of all alternatives. If the individual wants to reduce this uncertainty and actually make a risk comparison, he or she will need to investigate and find more complete information regarding each option; this will result in investigation costs, where these costs will likely be greater the more complicated and long-lasting the decision. As an alternative, institutionalism (following expected social norms) reduces the uncertainty and investigation costs by providing a dependable and efficient framework for decision making.

Suggestions for Future Research

Economically Based Propositions

Although a great deal of work has been done on designing and using economic approaches to study individual decision making, most of this work relating to retirement decisions has focused on only one component influencing the individual decision and has not considered the interaction of financial constraints with health considerations and individual preference for time. Thus, it seems most appropriate to return to the basic premises outlined by Becker and colleagues in the 1960s: consider the scarce resources that constrain individual’s choices and that must be allocated each time someone makes a major decision, namely money, time, and effort (Ierulli et al. 1995).

With regard to retirement, the money constraints an individual must consider are obvious; they are his or her entire future financial condition (Beehr 1986; Feldman 1994). The start of retirement represents a major change in the expected income for the retiree and his or her family. The future retiree and family must have some future stream of income to replace the employment income that they have been receiving. This replacement income may come from three different sources: the government, former employer’s pension plan(s), or the employee’s own savings. All three of these factors have been shown to have an influence in inducing earlier retirement, especially during the last few decades (Levine and Mitchell 1993; Feldman 1996). As stated by Beehr (1986, p. 48), “Employees are more likely to decide to retire to the

extent that they expect to be well-off financially in retirement.”

An individual’s preference for time allocation, that is, spending time at work and in productive consumption versus in leisure activities, must also be assessed. On the one hand, if an individual enjoys work and feels his or her self-identity is closely tied to the career position held, then this individual will likely prefer to spend a significant amount of time working, even if eligible for retirement. On the other hand, if an employee has made plans for retirement, anticipating greater leisure and family time and addressing economic uncertainty ahead of time (Feldman 1994), then this individual will likely prefer to retire. If an individual’s preference for leisure time is great, he or she will likely retire as early as possible given the other constraints of money and effort. This is supported by Becker’s (1976) theory concerning allocation of time, where he showed that, with a compensated drop in earnings (replacement of earnings by post-retirement nonwork income), an individual would view leisure time spent on travel, gardening, fishing, and other time-intensive activities as less expensive and thus substitute these recreation commodities for the previous hours worked.

Thus, proposition one, part a, is the following:

1a. If a person prefers spending time on leisure instead of work activities and has the ability to retire without affecting his or her economic status, the likelihood that he or she will choose an earlier retirement age is increased.

Another essential constraint or factor that must be taken into account under the economic approach is the health of the individual or effort needed to continue working (Beehr 1986; Feldman 1994; Levine and Mitchell 1993; Karoly and Rogowski 1994). The actual or perceived health of the employee, if poor, may limit or end the employee’s working career regardless of his or her financial condition. As stated by Feldman (1994, p. 296), Levine and Mitchell (1993, p. 87), “retirement is no longer a choice but a necessity” required by poor health. This addresses the situation of individuals with major physical illnesses, but what about those who simply feel unhealthy? Here the results seem to be mixed. Some studies conclude that health has some, but possibly only a small, role to play in explaining the decision to retire (Levine and Mitchell 1993). Other studies imply that health is related to the decision to retire indirectly through its effect on job performance (Feldman 1994). Still other studies have found that health is one of the more consistent predictors of the retirement decision (Beehr 1986). Regardless of the various amounts of strength each argument implies, all cited do indicate that health has at least

some impact on the retirement decision and thus certainly must be maintained as an important factor and included in the design of any study investigating the retirement decision. Since we will study an individual's decision to retire, the individual's perception of his or her health should have a stronger affect on this decision than the actual, medically determined status of health. Thus, proposition one, part b, is the following:

1b. The individual's perceived inability to keep working increases the likelihood that the employee will choose an earlier retirement age.

An employee's poor health has a direct influence on the retirement decision (Beehr 1986; Feldman 1994). Poor health also has an indirect influence on this decision through the employee's financial condition. This indirect influence occurs in two different, opposing ways. First, the cost of health, both health insurance and direct health cost through copayments, deductibles, drug costs, and so on, affects an individual's financial condition. As stated by Karoly and Rogowski (1994, p. 103), "Poor health can result in large out-of-pocket expenditures and may pose a threat to economic security. Access to private health insurance is particularly important for older workers under the age of 65 who wish to retire, since Medicare eligibility does not begin until age 65." In fact, health costs for older Americans are so great that research has been done to investigate the direct effect on retirement age of continuing employer-provided health benefits after retirement. The results of these studies have been mixed (Karoly and Rogowski 1994; Gustman and Steinmeier 1994), possibly because both studies considered this item an independent variable in addition to and separate from the independent variables for financial status and health status.

Second, an individual's health will likely affect the length of the retirement period and thus the amount of personal assets he or she will need at the time they retire. For example, an employee in poor health at time of retirement is not expected to live as long as an individual of the same age who is in good health. Thus, personal assets needed at retirement to cover normal future living expenses should be less. As discussed, this may be offset, however, by substantial health costs during whatever remaining lifetime the person has. Thus, the complete proposition one reads as follows:

1c. When an individual perceives he or she is unable to keep working, if the person prefers spending time on leisure instead of work activities and has the ability to retire without affecting his or her economic status, the

likelihood that the employee will choose an earlier retirement age is strongly increased (see Figure 1).

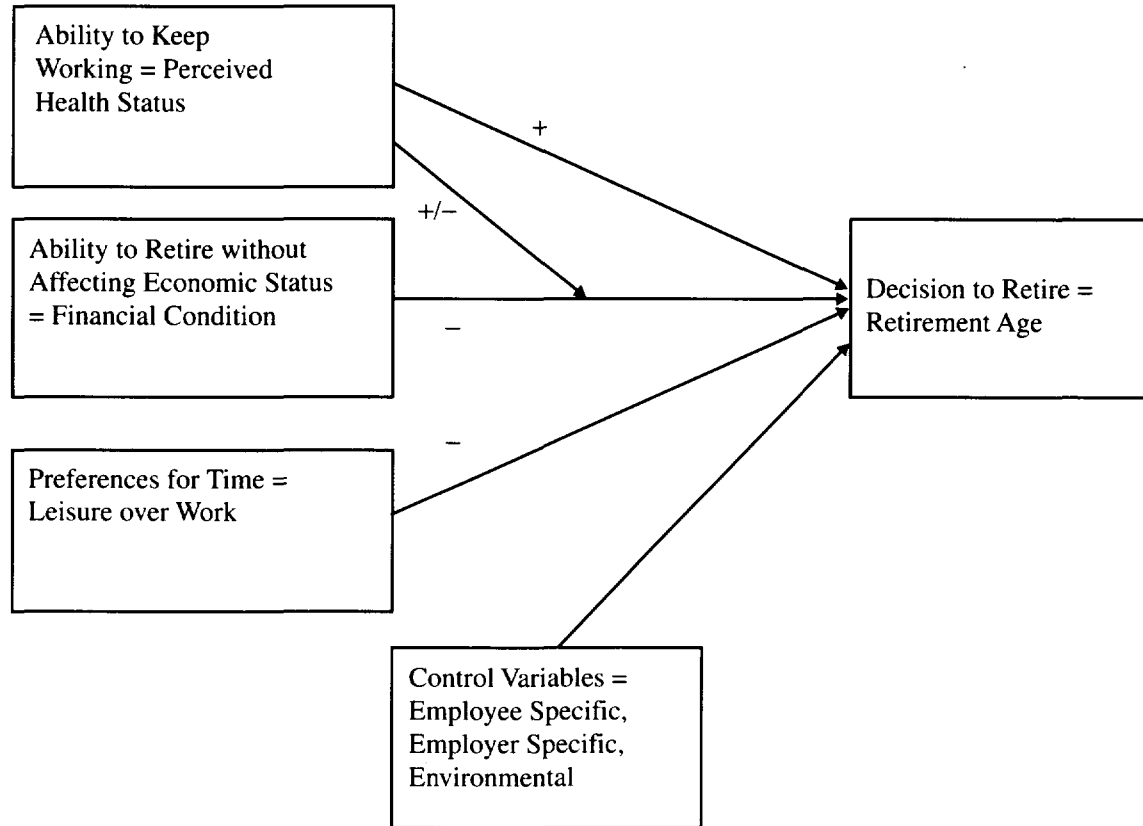
New Institutionalism Propositions

Assuming an employee uses a New Institutional, expected social norm approach to decide when to retire, he or she will "seek guidance from the experiences of others in comparable situations and by reference to standards of obligation" (DiMaggio and Powell 1991, p. 10). As the quote indicates, under this approach an employee will refer to "standards of obligation" when selecting a retirement age. The U.S. government-established (Social Security) retirement age and the retirement age set by most employer-sponsored retirement plans represent these standards with regard to the retirement age question. The OASDI retirement age of 65 became the nationally defined "normal retirement age" after the original Social Security Act was established in 1935 and, with the addition of reduced retirement benefits available at age 62 following act amendments in 1956 and 1961, has remained the standard until recently (Myers 1981). The definition of a "normal retirement age between 62 and 65" has also been extended to 62% of all medium or large and 84% of all small private-employer defined benefit retirement plans (Piacentini and Foley 1992). This defined benefit normal retirement age cannot be increased under U.S. retirement law (ERISA) with regard to benefits earned to date. Based on these organizational and social standards, it would thus be difficult for an employee to think of any age outside the range of 62 to 65 as a "normal retirement age." Thus, proposition two, part a, is the following:

2a. The expected retirement age set by organizational and broad public social rules increases the likelihood that the employee will choose an earlier retirement age.

As the quotation at the beginning of this section states, employees will "seek guidance from the experiences of others in comparable situations" when selecting a retirement age. Such guidance and examples are certainly provided by retirement ages chosen by known family members, peers, neighbors, and friends. In fact, people want and often feel they deserve the same opportunities and advantages in life as those enjoyed by their neighbors, friends, and other family members. For instance, when Mark sees Joe enjoying his retirement at the golf course or working in the garden, he desires the same advantages and freedoms. When Kay sees or hears about her relatives Mary and Ed heading off for a two-month leisurely vacation, she craves the same

FIGURE 1
ECONOMIC MODEL OF RETIREMENT AGE DECISION



opportunity. Especially when individuals feel they worked as hard and accomplished as much during their working careers as “Joe” or “Mary and Ed,” it must be difficult for them (and contrary to equity theory) not to be enticed to retire also. Thus, proposition two, part b, is the following:

2b. If other known colleagues, friends, family members, and neighbors are retired, then the likelihood increases that the employee will choose an earlier retirement age.

The retirement ages chosen by other known family members, colleagues, and friends will likely have been heavily influenced by the organizational or social “standards of obligation.” As described above, a “normal retirement age between 62 and 65” is used by both the Social Security system and the vast majority of private employers (Piacentini and Foley 1992). Thus, most employees are influenced by the *same set* of organizational and social norms with regard to retire-

ment age. The two factors of retirement ages of peers, family members, and colleagues and of the “standards of obligation” are thus very likely interrelated with high multicollinearity. Therefore, the complete version of proposition two reads as follows:

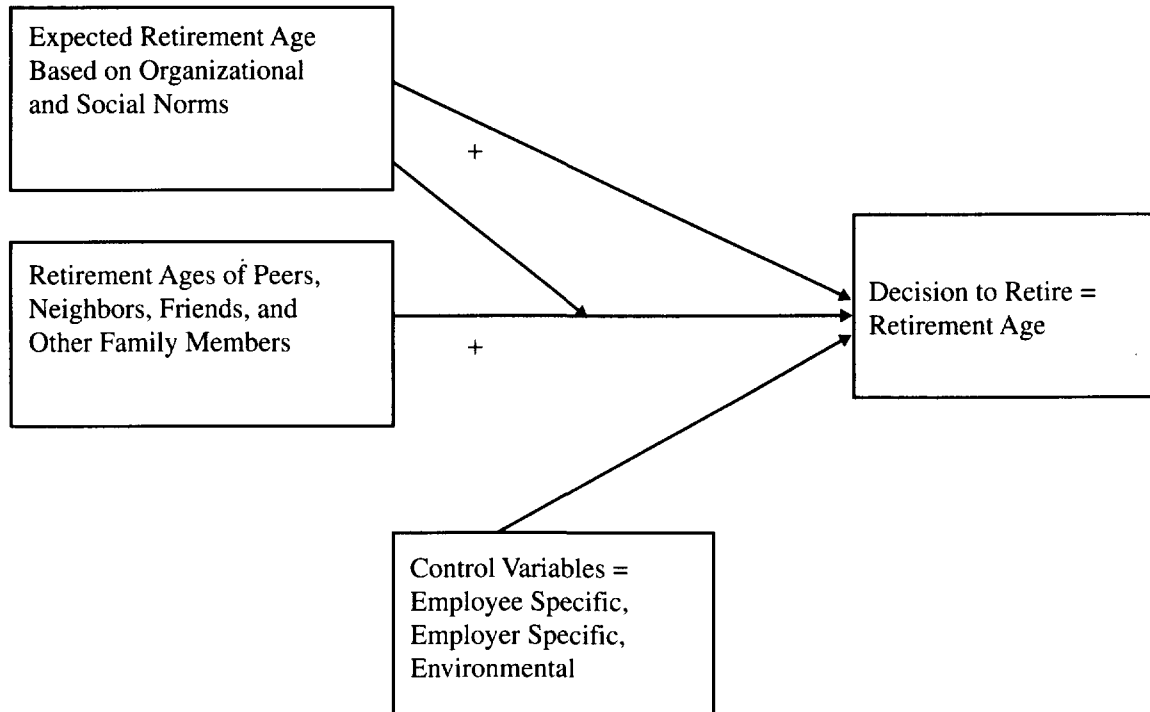
2c. If other known colleagues, friends, family members, and neighbors retired before the socially expected retirement age (early), then the likelihood increases that the employee will choose an earlier retirement age (see Figure 2).

Future Research: Recommended Methods and Analyses

Research Setting

A rich research setting to study the propositions suggested by the literature and theory review would consist

FIGURE 2
INSTITUTIONAL MODEL OF RETIREMENT AGE DECISION



of two separate organizations, each of which have contact with future and current retirees, say, a medium-sized employer with at least 1,000 employees and an association of citizens over the age of 40. The research participants from the first setting should include all the current employees of the medium-sized employer who are over the age of 40 plus all former employees who retired within the last two years. The research participants from the second setting will consist of 500 members of the association; these participants will be randomly chosen from a membership pool that includes all nonretired members over the age of 40 plus all members who retired within the last two years.

This multiple research setting will provide natural variation for all variables, dependent and independent. The medium-sized employer with at least 1,000 employees will have employees in all age brackets and, provided the company is not recently formed, will have retirees in all age brackets. This age spread will exist particularly if the company has followed an internal-labor-market approach. Employees will decide when to retire based on their specific individual, family, and occupational characteristics; thus, there should be natural variation in the retirement

ages chosen. Also, a medium-sized company employing at least 1,000 people will normally have many different job categories or departments employing people in a wide range of income, educational, and skill levels; the organization should be carefully chosen based on the presence of these characteristics. This will enhance the variation in the independent variables. One concern with this setting is the lack of variety in the independent variable measuring the perceived health of the employee; most people still employed and actively working are in fairly good health. Those who are at or near an eligibility age for retirement and suddenly suffer a deterioration in health will be part of the employment pool surveyed, thus adding some variety to the health variable. However, this concern and a lack of variability in one component of the financial condition of the future retirees, namely, monthly income from the employer's retirement plans, recommends the inclusion of another separately administered research setting.

The second setting will be an association of citizens over the age of 40, for example, AARP. This setting should provide variability in the areas described above that lack variety within the firm-specific setting. However,

this setting will have shortcomings with regard to lack of access to survey participants in one centralized location and with regard to potentially incomplete participant financial information, especially with regard to employer-provided retirement plans. In addition to greater variability among the independent variables, the random selection process used to determine the participants for this setting will allow the results to be generalized to the entire organization from which the participants were selected. If the membership of this organization is very large, as expected, and is representative of the entire U.S. population, the results may be generalizable to all individuals who will be retiring in the next two decades.

The multiple research settings within which to administer the survey should reduce the impact of several confounding variables that can affect results obtained from any one setting. In particular, the survey of the employees and retirees of the medium-sized employer may contain influences due to the uniform corporate setting, influences on the employees' description of a normal retirement age, employees' descriptions of their health status, their financial status, and other factors. These corporate influences should be mitigated by also surveying members of an association of citizens over the age of 40. With this association survey there will be responses from current and former employees of small, medium, and large employers who may or may not have ever sponsored a retirement plan. There will be responses from current and former government employees, current and former military personnel, and current and former individuals who were unemployed at time of retirement. This will greatly expand the variety of responses. However, this second setting may introduce other problems, such as investigating only members of one association, who may be predominately from one geographic area or from a limited socioeconomic background. Thus, the best way to address both the needed variety and confounding variables is to administer the survey in two different settings.

Measurement of Variables

The dependent variable for both sets of propositions is the age at which an employee retires. This is a continuous variable that could be determined by a postsurvey question(s) that asks each participant the age when the first retirement benefit was or will begin to be received from either an employer's pension plan(s) or the Social Security Administration. Thus, "Retirement Age" will

be the assumed future retirement age for all participants who have not yet retired and will be the actual retirement age for all participants who are already in retirement. Retirement age is defined by the first retirement benefit received or to be received because this is an objective measure that can be verified and an economic measure that indicates a specific time when the participant began or will begin to deplete rather than accumulate assets. To aid in understanding the employee's perception of his or her chosen retirement age, each employee's definition of a "normal retirement age or ages" should be investigated based on questions asked as part of the survey. The survey questions will focus on the employee's personal understanding of "normal retirement age" and his or her knowledge of retirement ages chosen by other colleagues and friends.

The three independent variables that are part of proposition one are "financial condition" (IV#1), "perceived health status" (IV#2), and "preference for leisure over work" (IV#3). The first variable is a ratio of the sum of sources of retirement income to the employee's final pre-retirement monthly income or current monthly income if still working. Monthly income normally consists of monthly after-tax or pre-tax wages (as necessary to equate the numerator and denominator to the same tax basis). The numerator of this ratio is the sum of the amounts to be received from all sources of retirement income (often called "replacement income"), which includes Social Security benefits, benefits from employer retirement plan(s), and personal disposable assets converted to an expected monthly income figure. Thus, the first independent variable, the percent of working monthly income that is replaced by retirement income, is a continuous variable of percentages ranging from 0% to 150% or more; the higher the percent, the greater the financial condition of the future or current retiree.

The second variable (IV#2), the perceived health of the employee, can be defined in many different ways. For the purpose of this study, however, it seems most appropriate to determine the employee's view of his or her own health and its impact on his or her ability to continue to work, in other words, a subjective, employee-defined opinion of health. This will be determined by appropriate health questions, based on existing questionnaires used to measure perceived health, as part of the survey. The variable will then equal an average of all answers provided to the health questions, with each question ranked on a scale of 1 to 5. Thus, the second independent variable is a continuous variable of values ranging from 1 to 5; the higher the value, the more the employee perceives his or her

health is good and does not adversely impact his or her ability to continue to work.

The third variable (IV#3), the individual's preference to spend time on leisure activities versus work, will also need to be determined based on survey questions. First, the individual should be asked to specify the amount of time (in hours) they would ideally spend on various activities, including work, leisure, and household tasks. From the hours provided, a percentage should be determined representing the individual's preference for leisure, or nonearning, time. Second, survey questions also need to assess the individual's attitudes about work and his or her career as well as assess whether the individual and his or her family have made definite plans for retirement; as noted in Feldman's review article (1994), these two issues can have a significant affect on the individual's preference for retirement. This last subset of survey questions should be summed and averaged and then correlated with the individually determined ideal percent of time to be spent on leisure activities to assure that these two measures are consistent. Then the third independent variable will be a continuous variable of percentages ranging from 0% to 100%; the higher the percent, the more the employee values and desires time for leisure activities.

The two independent variables that are part of proposition two are "retirement ages of peers, neighbors, friends, and family members" (IV#4) and "expected retirement age based on organizational and social rules" (IV#5). The first variable (IV#4) will be based on questions asked as part of the employee survey. These questions will ask the employee/retiree for the actual specific retirement ages of known colleagues, peers, friends, and family members, where the employee would simply list all such known people and their respective retirement ages. Thus, IV #4 is a continuous variable representing the average retirement age of people known to be influential to the employee/retiree.

The second variable (IV#5) will be based on a combination of known retirement ages that serve as "standards of obligation" and the employee's understanding/interpretation of a "normal retirement age." The known retirement ages will include the Social Security normal retirement age and the normal retirement age used by the employer's retirement plans. The employee's understanding or interpretation of a socially expected normal retirement age needs to be assessed from the survey through specific questions. The continuous variable will then be determined as an average of all of the expected retirement ages, both those publicly known and the employee's specific interpretation of the same.

Analyses Using Statistical Methods

Before explaining the statistical methods to be used to empirically analyze the hypotheses, it should be noted that *all of the statistical procedures to be described will be applied to the data three times*. The first application of all procedures will take place using the entire accumulated database. The second and third application of all procedures will take place using, for the second set of operations, a subset of the complete database that contains all current retirees and all individuals who have indicated they intend to retire within the next two years and using, for the third set of operations, the complement of the subset just defined (all individuals who are not currently or do not intend to retire within two years). In other words, the data will be analyzed assuming the length of time to actual retirement is functioning as a mediator variable.

Several factors of the constructs being measured and the design of the study imply that different results will be obtained for the two data subsets. First, those who are more than two years away from expected retirement will likely experience many changes in their personal and working characteristics during the next few years, changes that will substantially impact their retirement decision. As stated by Anderson, Burkhauser, and Quinn (1986, p. 525), "Retirement plans made by workers (age 58-63) employed in 1969 turned out to be inaccurate more than 40 percent of the time. Part of the difference between planned and actual retirement age was due to unexpected changes in important determining variables." Second, the subset of individuals who are more than two years away from expected retirement may bias the results by overemphasizing the influence of proposition two independent variables. In other words, this subset is likely to de-emphasize the influence of proposition one independent variables because of the length of time remaining to retirement and uncertainty, based on lack of specific information and analysis, with regard to the future values of financial condition (IV#1) and health status (IV#2).

The first statistical procedure that will be used will be a calculation of the means and standard deviations of all variables. The actual values and distribution of the dependent variable and several of the independent variables are of interest with regard to differences among the subsets, differences with prior published results, and longitudinal differences when the studied participants are revisited in the future. Also, a table of correlation coefficients will be constructed to reveal the strength and direction of the relationships between the variables and indicate possible problems with multicollinearity.

The second set of analyses that will be performed will use an analysis of variance approach. This will test the ability of each set of propositions to explain the total variation in the dependent variable, retirement age, about its mean by determining the amount of variance that is explained by regression with each specific set of propositions versus that attributed to error. The assumption behind this test is that the largest R^2 (or largest ΔR^2 after the model takes into account the variance explained by all control variables) is produced by the model that is the best predictor of the behavior of the dependent variable.

The final method of analyses used will be multiple linear regression with a moderator effect. At present, the regression model is assumed to be linear in all variables, but this may change with further refinement of the variables and insight into their impact on the dependent variable, retirement age. The equations describe a relationship between the dependent variable, Y , and each control and independent variable, in succession, in units of the dependent variable. Each equation expresses the dependent variable Y as a linear function of each control and independent variable, CV and IV, where each coefficient, β_i , indicates the amount and direction of the influence of each CV or IV on Y .

Limitations of This Study

The use of a retirement age definition that is not all encompassing is definitely a limitation of the research as designed. The results, regardless of their support of the hypotheses, will not be generalizable to all retirees. This limitation is necessary, however, given the current complex, multifaceted state of retirement. As described previously, retirement may now be defined by several different triggering events. The triggering events or various ways to assess the state of "retirement" include being employed less than full time (known as partial or phased retirement), receiving a pension, forced or "implied" mandatory retirement, early (prior to age 65) as compared to normal retirement, and assumption of the person that they are "retired" (Levine and Mitchell 1993; Beehr 1986). It is assumed by some researchers (Beehr 1986) that these differing definitions of retirement are one likely explanation for the differences obtained by research to date in the type and significance of influencing factors on the retirement decision. Thus, the best if not only way to study the retirement issue at this time is to choose one specific definition and then later redo the same study using a different definition. The results can then be compared to determine the consistency and/or differences based on

retirement age definition. Alternatively, if the participant pool is large enough and data are collected on all retirement "triggering events," the relationship among the various definitions of retirement can be tested as part of this study. The state of retirement used for this study, namely, receiving a pension, is the most appropriate definition keeping in mind the propositions being investigated, the testing environment, and the objectivity of this measure.

The first independent variable measuring the financial condition of the future retiree can also be a potential source of limitation for this study. This is a very complicated variable that is based on several financial calculations. It is unlikely that a future retiree will know the exact, or even a reasonably close estimate, of the components of this calculation; this is where expertise as an employee-benefits actuary should prove beneficial. With proper authorization from the participant and a listing of personal assets, this "replacement income" can be accurately estimated; in fact, sharing the result of these calculations with the participant is the planned incentive to encourage participation and completion in full of the survey. Regardless of the incentive to participate, it is likely that the length of the survey and the amount of detail needed to complete it will reduce the response rate and thus the power and generalizability of the results. Therefore, the survey must be carefully designed, the incentive emphasized, and follow-up rigorously performed to assure the maximum, complete response rate.

Another major limitation that is apparent even before the study commences is the fact that all the independent variables change, often dramatically, over time. Changes in these variables along with changes in the listed control variables will likely cause changes in the predicted retirement ages of current employees (Anderson et al. 1986) and *possibly substantial changes in the relative influence of these variables*. This is the basis for the multistep analysis of the data described above. However, this sub-analysis only provides cross-sectional data at one point in time. To completely study the retirement decision and the relevant influencing factors, this study would need to be longitudinal, where the participant groups who are now five years from estimated retirement are restudied five to seven years hence, the participant groups who are now 10 years from estimated retirement receive the same survey and are restudied five to seven years from now and again 10 to 12 years from now, and so on. Thus, the present group of participants must be followed, and the study must be repeated as noted. Only then can we hope to fully understand an individual's retirement decision, the factors that influence this decision, and the way these factors change over time.

Discussion and Conclusion

Implications If Propositions Confirmed

The results of studying the hypotheses stated under propositions one and two will definitely enhance our understanding of an individual's retirement decision, both the actual choice of a retirement age and the factors that influence this decision. Our study will show the average expected retirement age for all participants, plus, more importantly, the average expected retirement age for current employees as compared to the average retirement age for current retirees. The results of the study will show the impact of many influences, through control variables, economically based independent variables, and new institutional independent variables, on the retirement decision. In particular, this will be a direct application of Becker and colleagues' (1976) economic approach to analysis of retirement, one area of individual behavior that has not been extensively investigated; thus, the study may provide important information about the end of the earnings life cycle. The retirement decision has been a "key (but) unanswered question(s)" since 1957 (Feldman 1994, p. 285; Rappaport and Schieber 1993, p. 6; Beehr 1986, p. 45; Mathiasen 1957, p. 101).

Perhaps more importantly, this study will enhance our understanding of the entire decision-making process. When making a major life decision, does an individual use an economic, boundedly rational analysis as assumed and studied by many different research groups? Or, even with an important decision, does an individual default to a New Institutional approach because of the overwhelming number of choices, amount of information, and uncertainty inherent in a boundedly rational analysis? Alternatively, the results of the study may show that New Institutional theories only "add" explanatory value to an already existing economic approach. This is still an important contribution to the study of decision making, however, since, as with the retirement decision, concrete, definable factors that influence an individual's decision-making process and thus can be restructured or redefined to affect this decision are important for many areas of research.

Managerial and Public Policy Applications

An employee's decision to retire means an organization will need to replace an experienced, knowledgeable member. On the other hand, an employer may want senior employees to retire in order to provide promotion

opportunities for younger employees. Thus, organizations have several reasons to be interested in the way and time an employee chooses to retire. The Theory of Bounded Rationality has a long history of managerial applications. In fact, the basis for incentive compensation, as well as for merit pay, is grounded in it. A study of actual employees' decision-making processes, as related to financial stability, health, and preference for leisure time, could thus have important managerial applications by reviving the initial emphasis of retirement plans as an organizational planning tool. If, instead, New Institutionalism holds as the predominate explanation of employees' decision-making processes, then companies can address and influence behavior through corporate norms and symbols (employer-sponsored retirement plan's retirement age, retirement ages of executives) and possibly even through general social norms and symbols by using the political system to influence them. In other words, this theory also has a long history of corporate and managerial applications to influence behavior. However, the techniques used to affect behavior are quite different for New Institutionalism versus Bounded Rationality.

If the number of employees retiring in any given period is high or low in comparison to the number of new labor market entrants, employees' decisions will affect the labor-market supply of the business that the employees are leaving, the industry of which the business is a member, and possibly the general population. The size of the retired component of the population also affects goods and services available to society as a whole, because as the proportion of the total population that is retired increases, so does the proportion of the economy and the GDP focused on providing the needs and wants of the elderly (Rappaport and Schieber 1993). Knowledge of the process employees use to decide when to retire would certainly be beneficial with regard to redesign of the Social Security and Medicare systems as well. Thus, the results of our study of proposition one and proposition two and comparison of the two sets of results is very important and interesting for both managerial and public policy application purposes.

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- See the discussion of this paper by Ron Solomon (p. 210).*