

**Retirement Wealth and Its Adequacy:
Assessing the Impact of Changes in the Age of Eligibility for
Full Social Security Benefits**

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Abstract

This paper assesses whether the accumulated retirement wealth of pre-retirees will be adequate to cover needs during retirement, and how variation in age of eligibility for Social Security benefits affects adequacy. Data from the 1998 Survey of Consumer Finances are analyzed to assess the adequacy and composition of retirement wealth of U.S. households, and simulations are used to assess the impact of changes in the Social Security system. Unique contributions of the research include use of household specific information on portfolio allocation and planned retirement age, projection of retirement wealth using asset specific growth rates, and estimation of retirement needs based on household expenditure functions. The findings reveal that the average U.S. household receives approximately 46% of retirement wealth from Social Security, 39% from personal savings, and 14% from pensions. Approximately 56% of U.S. households are on track to be able to maintain their pre-retirement consumption level in retirement. However, retirement wealth adequacy rates and retirement wealth to needs ratios both increase with planned retirement age of the householder. Based on simulations, the impact of changes in the age of eligibility for full Social Security benefits on retirement wealth adequacy depends on behavioral responses to these changes. At one extreme, if increases in the full retirement age are not accompanied by changes in planned retirement age, retirement wealth adequacy decreases across all households. These decreases are larger for households that plan to retire at “Social Security eligible ages” (i.e. between the ages of 62 and 65) than for households that plan to retire before age 62 or after age 65. Under this scenario, the level of retirement wealth from Social Security declines due to larger absolute reductions for early retirement and smaller absolute increases for delayed retirement. At the other extreme, if increases in full retirement age are accompanied by postponement of retirement to age 67 or later, retirement wealth adequacy increases for households that had previously planned to retire before age 67, but actually declines slightly for households with planned retirement at age 68 or later. Under this scenario, for households that had previously planned to retire before age 67, levels of retirement wealth from savings, Social Security, and pensions all increase. However, the increases are much larger for savings and pensions than for Social Security.

1. Introduction

The elderly population in the United States is growing at a much faster rate than the population as a whole. The percent of the U.S. population made up of elderly persons is projected to increase from 13.0 percent today to 20 percent by 2030 (U.S. Department of Commerce 2000). The financial situation for future retirees is uncertain. How much income will today's pre-retirees have to spend during their years spent in retirement? Will this income be sufficient to support the desired level of living?

Retirement income is commonly assumed to come from the triad of Social Security, private pensions, and personal saving. The relative importance of these three components of retirement income is likely to change as a result of planned reductions in Social Security benefits for retirement before age 67, shifts away from defined benefit pension plans, and changes in personal saving behavior (possibly in response to changes in Social Security and pension programs). Proposals for additional changes to the age of eligibility for Social Security benefits also have implications for the adequacy of retirement income. The adequacy of income accumulated for spending during retirement affects the level of living during the retirement years. Previous research has found that only about half of American workers will be able to maintain their present level of living after retirement, based on projections of current accumulations and contribution rates, and portfolio allocations (Yuh, Montalto, and Hanna 1998).

This study assesses the adequacy of retirement wealth – whether the wealth projected to be available for spending during retirement will be adequate to cover needs during retirement - and how variation in the age of eligibility for Social Security retirement benefits affects adequacy. There are several unique aspects of this research. The study focuses on pre-retirees between the ages of 35 and 70, a broader age range than in much of the existing research. Several procedures are employed to enhance the estimation of financial wealth available for spending during retirement and the estimation of financial needs during retirement. First, financial wealth available for spending during retirement is projected using detailed household specific information on portfolio allocation, and asset specific growth rates. Second, financial wealth available for spending during retirement is projected at the point of planned retirement rather than at

some exogenously imposed time (i.e. age 65). Third, retirement needs are estimated from household expenditure functions allowing needs to vary with important household characteristics and observed behavior. The justification for each of the three procedures follows.

Retirement savings can be invested in a variety of ways, ranging from traditional savings accounts with relatively low rates of return, to publicly traded stocks and mutual funds offering relatively high rates of return. Individual households will vary both in terms of the composition of the retirement portfolio and the actual rate at which individual investments accumulate. While it is routine, and very parsimonious, to estimate the value of financial resources available for retirement by applying a single average rate of return to predict the future value (at retirement) of current retirement resources, this may over- or under- estimate the ultimate accumulation depending on actual market rates of return and the composition of the portfolio. Therefore we use detailed household specific information on portfolio allocation, and asset specific growth rates in an effort to more accurately project the financial resources available for retirement.

An individual's planned retirement age is a critical factor affecting saving and investment decisions during the working years. The number of years until the planned retirement typically serves as an investment horizon for retirement saving for pre-retirees. The number of years of life remaining after the planned retirement directly affects the personal retirement savings target since the resources needed to finance retirement needs are proportional to the number of years spent in retirement. Exogenously imposing retirement at age 65 would overestimate the investment horizon and underestimate the retirement needs of persons who plan to retire before age 65. Similarly, persons who plan to retire at older ages would have longer investment horizons and would spend fewer years in retirement. Analysis of data from the Survey of Consumer Finances documents a wide range of planned retirement ages among pre-retirees in the U.S., with 17 percent of pre-retirees planning to retire by age 55, and 11 percent planning to work until at least age 65 (Montalto, Yuh, and Hanna 2000). Clearly, assumptions made about planned retirement age are critical in determining whether people have saved 'enough' for retirement. Yuh, Montalto, and Hanna (1998) found that planned retirement age has a

substantial impact on the estimated adequacy of preparation for retirement. Therefore this research will project financial resources available for retirement at the point of planned retirement to more accurately capture the investment horizon and the years spent in retirement.

The most common method of estimating the level of retirement need is to specify the percentage of pre-retirement income needed to maintain the pre-retirement consumption level during the years spent in retirement. This percentage is commonly referred to as the “replacement rate” (Palmer 1989, 1994). In general, the replacement rate approach assumes that retirees spend less than pre-retirees to achieve the same level of living. This assumption is based on empirical evidence from cross sectional data that retired households, on average, spend less than non-retired households. However, the reduced consumption level of retired households may not accurately reflect their desired level of living in retirement since it is not clear whether the lower consumption level of retired households is caused by preferences or by inadequate retirement income. A more plausible approach is to estimate the desired level of living in retirement directly from the pre-retirement consumption level of each household, since pre-retirement living standards provide the appropriate benchmark for expectations of retirement consumption. This approach is based on the life cycle hypothesis and the assumption that individuals desire to smooth the level of consumption over the lifetime (Modigliani and Brumberg 1954). Household expenditure functions are used to predict pre-retirement consumption levels for each household; the predicted pre-retirement consumption level is used to estimate the retirement needs.

2. Previous research

Most of the previous research on retirement focuses on the observed retirement age using a work-leisure model or a life cycle labor supply model. Typically, data on actual retirement behavior is used to estimate the probability of being retired as a function of Social Security and pension benefits, and other demographic characteristics. This research documents that a worker’s decision to retire is influenced by rules governing pensions and Social Security benefits (Boskin 1977; Burtless and Moffitt 1985; Diamond and Hausman 1984; Kotlikoff 1979; Quinn 1977; Uccello 1998), earnings (Burtless and Moffitt 1985; Diamond and Hausman 1984), wealth (Burtless 1986; Samwick 1998),

characteristics of jobs held by elderly workers (Kotlikoff 1979; Uccello 1998), health insurance coverage (Uccello 1998), the worker's health (Burtless 1986; Burtless and Moffitt 1985; Diamond and Hausman 1984; Quinn 1977) and the worker's ability to continue productive employment (Fields and Mitchell 1984; Hurd 1997).

More recently, the focus of retirement research has shifted to issues of retirement wealth adequacy. Studies of retirement wealth adequacy have employed a variety of techniques to project the financial resources available for retirement, to estimate the level of retirement need, and to determine the adequacy of retirement wealth. In general, the previous research suggests that pre-retired people are not adequately prepared financially for their retirement and thus need additional savings in order to maintain the pre-retirement level of living during retirement (Bernheim 1996; Burns and Widdows 1988; Duncan, Mitchell, and Morgan, 1984; Engen, Gale, and Uccello, 1999; Li, Montalto, and Geistfeld 1996; Mitchell and Moore 1998; Moore and Mitchell 2000; Yuh, Hanna, and Montalto 1998; Yuh, Montalto, and Hanna 1998).

A common limitation that cuts across much of the previous research on retirement wealth adequacy is uniform assumptions that do not allow for variation across households. These assumptions often relate to planned retirement age, portfolio allocation, growth rates for assets, and retirement needs. By not allowing for variation across households, the corresponding estimates of retirement adequacy are prone to over- or under-represent actual adequacy. For example, planned retirement age affects both the amount of time prior to retirement during which assets accumulate as well as the amount of time that will be spent after retirement. Retirement at later ages, *ceteris paribus*, increases the time over which assets accumulate (thus increasing retirement wealth), as well as decreases the amount of time spent after retirement (thus decreasing retirement needs). Both of these factors would influence the measure of retirement wealth adequacy. Therefore, planned retirement age is an important variable in estimation of retirement wealth adequacy, and information on the actual planned retirement age should be used instead of assuming retirement at given ages. Similarly, household specific information on portfolio allocation and retirement needs, as well as asset specific growth rates, will improve the accuracy of estimates of retirement wealth adequacy.

3. Procedure

Conceptual Model

The life cycle model of savings posits asset accumulation during an individual's work life mainly to finance consumption after retirement when earned income is reduced. A generally accepted goal of retirement planning is to provide enough financial resources for retirement to prevent the level of living from dropping much below the pre-retirement level (Schulz 1992). Thus, retirement wealth adequacy can be defined as total retirement wealth equal to or greater than the total desired retirement consumption level. The desired retirement level of living can be estimated from information on the pre-retirement level of living, assuming that individuals desire to maintain the pre-retirement level of living during retirement (Modigliani and Brumberg 1954).

Retirement wealth adequacy at the point of retirement can be represented by:

$$A_R + \sum_{t=1}^{T-R} B_t / (1+r)^t \geq \sum_{t=1}^{T-R} C_t / (1+r)^t \quad (1)$$

where

A_R = total asset accumulation at the point of retirement (age R),

B_t = pension income at age t,

C_t = consumption level at age t,

R = retirement age, and

T = age at death.

According to this equation, retirement wealth at the point of retirement is adequate if the sum of the accumulated assets plus the present value of pension income (including Social Security and annuities) is at least as large as the present value of retirement consumption.

Empirical Procedure

To operationalize the conceptual model, retirement wealth must be clearly defined and methods for projecting the levels of retirement wealth and retirement needs must be selected. A comprehensive measure of retirement wealth is used in this study. Retirement wealth is defined to include financial assets, nonfinancial assets including housing wealth, and retirement income from defined contribution accounts, defined benefit plans, and Social Security.

Data. The data analyzed in this study are from the public use tape of the 1998 Survey of Consumer Finances, a triennial survey conducted by the Federal Reserve Board (Kennickell, Starr-McCluer, and Surette 2000). The Survey of Consumer Finances (SCF) is well suited for this study because it provides information on a broad age-range of the U.S. population, provides comprehensive and detailed information on household assets, and asks respondents when they plan to stop working full-time – planned retirement age. Households are included in the sample if the householder is age 35 to 70, works full-time, and indicates the age at which s/he plans to stop full-time work. The age cutoffs are necessary since income and portfolio projections are used to examine retirement wealth adequacy.

Estimation of Retirement Wealth. Each household in the SCF provides detailed information on the types and amounts of financial assets and nonfinancial assets currently owned, as well as money in defined contribution plans. These assets are categorized by asset type (i.e. stocks, bonds, money market instruments, business assets, and real estate assets), and the value of each asset category at the planned retirement age is projected using asset specific rates of return. The projected value of stocks, bonds, money market instruments, and business assets are calculated separately using the inflation-adjusted geometric mean annual returns for large stocks, long-term corporate bonds, Treasury Bills, and small stocks, respectively, for the period 1926 to 1998 (Ibbotson Associates 1999). The projected value of real estate assets is calculated using the inflation-adjusted geometric mean annual composite real estate returns from 1947 to 1982 estimated by Ibbotson and Siegel (1984).

Total defined benefit pension wealth is estimated from the household's self-reported information on expected benefits from defined benefit pension plans. The present value of the wealth from the defined benefit pension at the point of planned retirement is estimated. The discount rate for the present value calculation is the geometric mean of the nominal rate of return for long-term corporate bonds (Ibbotson Associates 1999).

The SCF does not provide direct identification of Social Security coverage. About 95% of jobs in the U.S. are covered by Social Security. The sample in this study consists of pre-retired households with at least one full-time worker, so it is assumed that all

households are covered by Social Security. The annual Social Security benefit is estimated using current Social Security replacement ratios based on current age, planned retirement age, current earnings, and marital status (Social Security Administration 1998). The replacement ratio represents the portion of pre-retirement salary that Social Security income will replace. The estimated annual Social Security benefit is adjusted for early retirement or delayed retirement as indicated by the planned retirement age. The present value of the Social Security wealth at the point of planned retirement is estimated. The discount rate for the present value calculation is the real discount rate applied by the Social Security Administration in their long range projections (Moore and Mitchell 2000).

Estimation of Retirement Needs. A household expenditure function is estimated on data from the Consumer Expenditure Survey, and then used to predict annual consumption in the year preceding retirement for households in the SCF data. The Consumer Expenditure Survey is conducted by the United States Bureau of the Census for the Bureau of Labor Statistics (U.S. Bureau of Labor Statistics 1999) and is the most comprehensive source of detailed information on expenditures for goods and services by households in the United States. For this study households that are interviewed in four consecutive quarters (excluding the initial bounding interview) are retained, and total expenditure reported in each of the four consecutive quarters is summed to obtain actual annual household expenditure. The household expenditure function models total annual household expenditure as a function of household characteristics and observed behavior. The household expenditure equation is used to predict annual consumption in the year preceding retirement for each household in the SCF sample, and this serves as the proxy for the desired annual level of retirement consumption. The annual level of retirement consumption is multiplied by the number of years spent in retirement (i.e. life expectancy at the planned retirement age) to determine the total retirement need. The total retirement need at the point of planned retirement (present value) is estimated using the real discount rate applied by the Social Security Administration in their long-range projections as the discount rate (Moore and Mitchell 2000).

Data Analysis

Total retirement wealth and total retirement needs at the planned retirement age are estimated for each household in the sample. To better understand who plans to retire at younger ages and therefore may be most affected by planned changes in the age of eligibility for retirement benefits, demographic and economic characteristics are calculated for the subgroups of the sample defined by planned retirement age. The subgroups are defined as households that plan to retire (1) at or before age 55, (2) between ages 56 and 61, (3) between ages 62 and 64, (4) between ages 65 and 68, and (5) at age 69 or later. To assess the relative importance of personal saving, Social Security, and private pensions the percent of total retirement wealth from each of the three sources is calculated for each household. Descriptive statistics are produced for each subgroup defined by planned retirement age.

Two variables are used to assess the adequacy of retirement wealth of pre-retired households. First, if projected total retirement wealth is greater than or equal to estimated total retirement needs the household is classified as having adequate retirement wealth; otherwise the household is classified as having inadequate retirement wealth (i.e. an indicator variable). Second, the ratio of total retirement wealth to total retirement needs is calculated for each household (i.e. a continuous variable). Descriptive statistics are calculated for each subgroup.

Simulations are used to estimate the effect of proposed changes in the age of eligibility for Social Security benefits. The first simulation assumes a universal increase in the full retirement age to 67, with no change in planned retirement age. This simulation represents the “worst case” scenario where the smallest improvement (or possible deterioration) in retirement wealth adequacy is expected. The second simulation assumes a universal increase in the full retirement age to 67, accompanied by universal increases in planned retirement age to 67 or later. This simulation represents the “best case” scenario where the largest increase in retirement wealth adequacy is expected. For each simulation, retirement wealth adequacy rates and retirement wealth-needs ratios are calculated and compared to those under the current Social Security System. Similar analyses can be conducted to analyze the impact of other changes.

4. Results

Distribution of Planned Retirement Age

The planned age of retirement of pre-retired householders age 35 to 70 in the U.S. varies widely, averaging 62.3 years. The cumulative distribution of planned retirement age is presented in Figure 1. Nearly 17% of the sample plans to retire before age 56, while over 14% plan to still be working full-time after age 65. The responsiveness of retirement to the structure of the current Social Security system is evident. The cumulative distribution of planned retirement age increases from 35% at age 61 to 48% at age 62 when reduced Social Security benefits are available. The full retirement age has an even bigger impact, with the cumulative distribution increasing from 51% at age 64 to 86% at age 65, an increase of 35 percentage points.

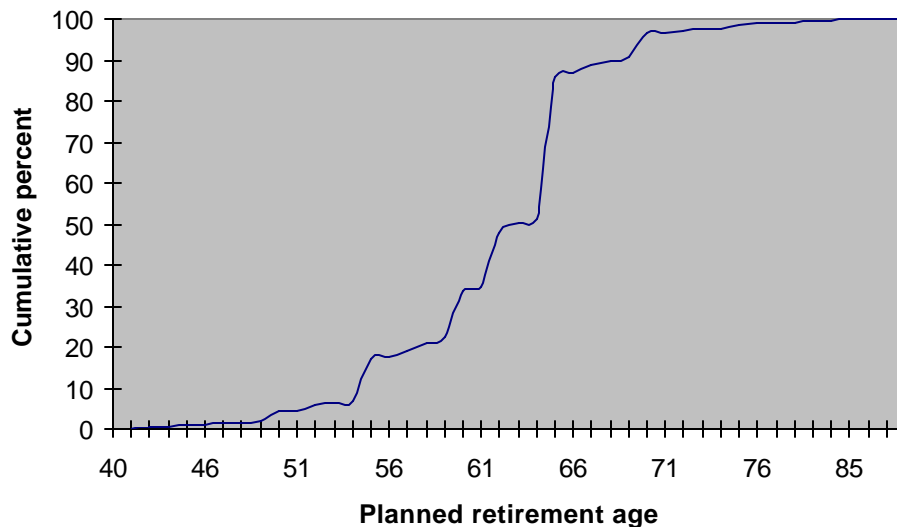


Figure 1. Cumulative Distribution of Planned Retirement Age.

Variation in Household Characteristics by Planned Retirement Age

Pre-retired households in the U.S., categorized by planned retirement age of the householder, exhibit differences in demographic and economic characteristics, as well as behaviors and attitudes (Table 1). Households with a householder that plans to retire before age 62 are younger and have higher annual household income and higher net worth than households with a householder that plans to retire at age 62 or later. Compared to households with a householder that plans to retire at age 65 or later,

households with a householder that plans to retire before age 65 are more likely to have defined benefit pensions, to use savings rules, to save for retirement, to expect their retirement income to be sufficient, and to perceive themselves as lucky with their financial goals compared to their reference group. (Descriptive statistics for the full sample are summarized in Appendix Table A.)

Distribution and Composition of Retirement Wealth

Retirement wealth includes pensions (including defined contribution accounts and defined benefit pensions), Social Security, and personal saving (including financial assets and nonfinancial assets inclusive of housing wealth). The distribution of retirement wealth is not symmetric. In fact, the distribution is quite skewed with a very long right hand tail due to a relatively small number of households at the upper end of the distribution that have extremely high levels of retirement wealth. As a result, mean retirement wealth is much larger than median retirement wealth (Table 2). While mean retirement wealth represents the arithmetic average, median retirement wealth may more accurately represent the level of retirement wealth for the typical household in the U.S.

Two of the three components of retirement wealth also have very asymmetric distributions. Mean retirement wealth from saving is much larger than the median level of retirement wealth from saving, and similarly for retirement wealth from pensions. In contrast, the median level of Social Security wealth is slightly larger than the mean level of Social Security wealth across all subgroups with the exception of households where the householder plans to retire at age 69 or later. This is due to the Social Security benefit formula that results in a higher replacement rate for low wage earners compared to average and high wage earners. For example, persons who retired at age 65 in 1997 with low earnings had 61% of their pre-retirement annual earnings replaced by Social Security benefits, compared to 45% for average earners, and 25% for high earners (Social Security Administration 1997).

Variation in Components of Retirement Wealth by Planned Retirement Age

The components of retirement wealth also vary with planned retirement age of the householder (Table 3 and Figure 2). In general, Social Security provides a larger share of retirement wealth than savings, and the smallest share of retirement wealth is contributed by pensions. The only exception is for households with a householder that plans to retire

between the ages of 56 and 61; for these households savings provides the largest share of retirement wealth, followed by Social Security, and pension. When planned retirement age is 65 to 68 years, Social Security provides 51% of retirement wealth on average. The average Social Security share is 47% for planned retirement age of 62 to 64 years, 46% for planned retirement at younger (≤ 55) and older (69+) ages, and falls to only 39% for planned retirement age of 56 to 61 years. When planned retirement age is 56 to 61 years, savings provides 45% of retirement wealth on average. The average savings share is 44% for planned retirement at 69 years or older, 39% for planned retirement at 55 years or less and between ages 62 and 64, and 35% for planned retirement age of 65 to 68 years. Pensions provide the smallest share of retirement wealth across all subgroups defined by planned retirement age. The average pension share is 17% for planned retirement between age 56 and 61, and 16% for planned retirement at younger ages (≤ 55). The average pension share is 14% for planned retirement between age 62 and 68, and falls to 10% for planned retirement at age 69 or later.

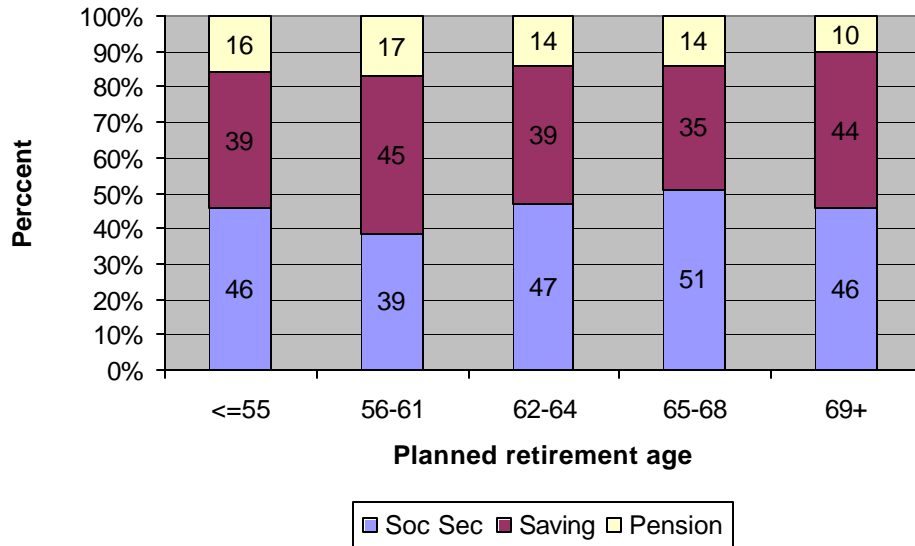


Figure 2. Components of Retirement Wealth by Planned Retirement Age.

In summary, Social Security provides a relatively larger share and pension income provides a relatively smaller share of retirement wealth for planned retirement at age 62 or older compared to planned retirement before age 62. Savings provides a relatively

larger share of retirement wealth for retirement planned between ages 56 and 61 or planned at age 69 or later compared to other ages.

Adequacy of Retirement Wealth by Planned Retirement Age

Planned retirement age has a substantial impact on the estimated adequacy of preparation for retirement (Table 3). The percent of households with adequate retirement wealth increases with planned retirement age of the householder. When the householder plans to retire at or before age 55, only 42% of households have adequate retirement wealth. Retirement wealth adequacy increases to 57% for planned retirement between ages 56 and 61, 58% for planned retirement between ages 62 and 68, and 65% for planned retirement at age 69 or later.

The retirement wealth to needs ratio is largest for households with planned retirement at age 69 or later (1.25 at the median; 3.15 at the mean). The next largest ratio is for planned retirement between ages 56 and 61 (median: 1.14; mean: 1.73), followed by planned retirement between ages 65 and 68 (median: 1.14; mean: 1.69), and then planned retirement between ages 62 and 64 (median: 1.13; mean: 1.41). The retirement wealth to needs ratio is smallest for households with planned retirement at or before age 55 (0.85 at the median; 1.10 at the mean).

Effects of Changes in the Age of Eligibility for Social Security Benefits on Retirement Wealth Adequacy (Simulations)

Simulations are used to estimate the effect of proposed changes in the age of eligibility for Social Security benefits. For each simulation, retirement wealth adequacy rates and retirement wealth-needs ratios are calculated and compared to those under the current Social Security System (Table 4). Similar analyses can be conducted to analyze the impact of other changes.

The first simulation assumes a universal increase in the full retirement age to 67, with no change in planned retirement age. This simulation represents the “worst case” scenario where the smallest improvement (or possible deterioration) in retirement wealth adequacy is expected. Under this scenario, retirement wealth adequacy as measured by both retirement wealth adequacy rates and retirement wealth to needs ratios, decreases across all subgroups defined by planned retirement age of the householder. The decrease in the percent of households with adequate retirement wealth (Figure 3) is larger for

households with a planned retirement age of 62 to 64 years (5.8 percent decrease) and 65 to 68 years (5.5 percent decrease) compared to a planned retirement age of 55 or younger (2.8 percent decrease), 56 to 61 years (3.2 percent decrease) and 69 years or older (2.8 percent decrease).

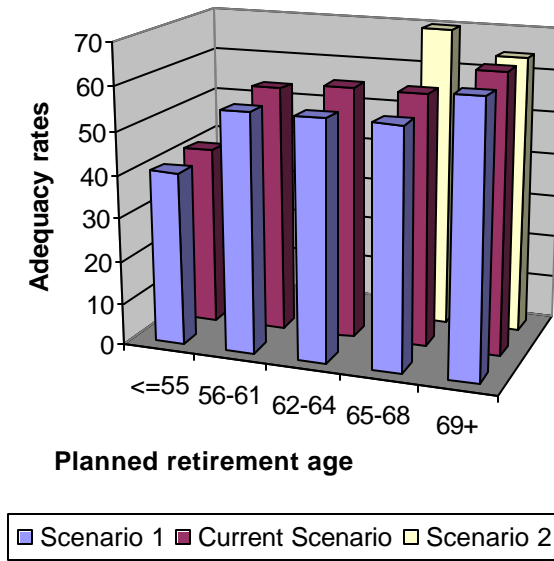


Figure 3. Effect of Changes in the Age of Eligibility for Social Security Benefits on Retirement Wealth Adequacy Rates (Simulations).

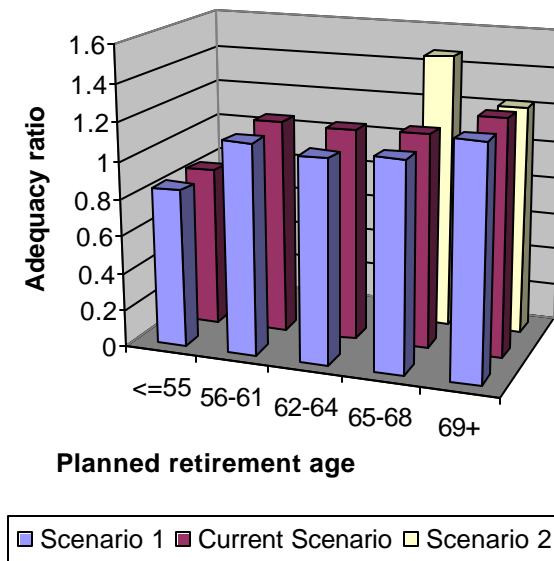


Figure 4. Effect of Changes in the Age of Eligibility for Social Security Benefits on the Ratio of Retirement Wealth to Retirement Needs (Simulations).

Similarly, the decrease in the retirement wealth-needs ratio (Figure 4) is larger for households with a planned retirement age of 62 to 64 years (4.9 percent decrease in the median ratio) and 65 to 68 years (3.0 percent decrease) compared to a planned retirement age of 55 or younger (1.0 percent decrease), 56 to 61 years (1.8 percent decrease) and 69 years or older (2.1 percent decrease).

Under the first scenario the levels of retirement wealth from savings and from pensions do not change since it is assumed that people do not change their planned retirement age (Table 5). However, the level of retirement wealth from Social Security declines due to larger absolute reductions for early retirement and smaller absolute increases for delayed retirement. (The early retirement reduction of 5/9 of 1% for each month under full retirement age is a larger absolute deduction when the full retirement age is 67 compared to 65. Similarly, the delayed retirement credit of 1/4 of 1% for each month between the full retirement age and age 72 in which no benefits are received is a smaller absolute increase when the full retirement age is 67 compared to 65.) As a result, under the first scenario the shares of total retirement wealth from savings and from pensions each are slightly larger than the respective shares under the current system, and the share from Social Security is smaller (Table 4). Since this scenario assumes no changes in planned retirement age, the changes in retirement adequacy are all driven by the reductions in retirement wealth from Social Security. The levels of retirement wealth from savings and from pensions, as well as the level of retirement need do not change.

The second simulation assumes a universal increase in the full retirement age to 67, accompanied by universal increases in planned retirement age to 67 or later. This simulation represents the “best case” scenario where the largest increase in retirement wealth adequacy is expected. Under this scenario, retirement wealth adequacy as measured by both retirement wealth adequacy rates and retirement wealth to needs ratios, increases for households with a planned retirement age of 65 to 68 (21 percent increase in the adequacy rate, and 29 percent increase in the median ratio), but decreases for households with a planned retirement age of 69 years or older (0.1 percent decrease in the adequacy rate, and 2.1 percent decrease in the median ratio) (Table 4).

Under the second scenario, postponement of retirement to age 67 for households that had previously planned to retire before age 67 results in increases in the levels of

retirement wealth from savings, Social Security, and pensions (Table 5). The increases are much larger for savings and pensions than for Social Security, and as a result, the shares of total retirement wealth from savings and from pensions are each larger than the respective shares under the current system, and the share from Social Security is smaller (Table 4). The improvements in retirement adequacy are due to both increases in the level of retirement wealth and decreases in the level of retirement needs (since later retirement reduces the number of years spent in retirement).

The observed increases in the levels of retirement wealth from savings and pensions are due to the longer pre-retirement period over which these resources are accumulated. The increase in the level of Social Security income is the result of postponement of retirement to age 67 – the full retirement age. The decrease in the level of retirement needs is due to the postponement of retirement, which reduces the number of years spent in retirement (i.e. life expectancy at the retirement age).

Households with a planned retirement age of 69 years or older fare slightly worse in the second scenario compared to the current system (Table 4). This is driven by reductions in the level of Social Security wealth since the delayed retirement credit is calculated relative to a full retirement age of 67 compared to 65 under the current system; the level of retirement wealth from savings and from pensions, as well as the level of retirement need do not change (Table 5).

Characteristics of Households with Inadequate Retirement Wealth

Under the current Social Security System where covered workers are eligible for reduced retirement benefits at age 62, and unreduced benefits at age 65 (gradually increasing to age 67 by 2027), approximately 43% of all pre-retired households are not on track to be able to maintain their pre-retirement level of living during retirement (Table 6). Compared to the total sample of pre-retired households, households with inadequate retirement wealth under the current Social Security System are younger, less educated, less likely to be married, and less likely to be White NonHispanic. Households with inadequate retirement wealth plan to retire younger, have lower current income and current net worth, and are less likely to have pensions (defined contribution or defined benefit), to use savings rules, to perceive retirement as an important saving goal, and to expect sufficient retirement income from Social Security and pensions.

Most of these bivariate relationships hold for households projected to have inadequate retirement wealth given universal increases in the full Social Security retirement age to 67. Under the scenario where full retirement age increases to 67 with no change in planned retirement age (worst case scenario), 46% of pre-retired households are projected to have inadequate retirement wealth, and all the bivariate relationships hold. If increases in the full retirement age are accompanied by universal increases in planned retirement age to 67 or later (best case scenario), only 30% of pre-retired households are projected to have inadequate retirement wealth. Households with a householder age 41 to 45, or at least 61 years old are slightly over-represented among households with inadequate retirement wealth compared to the total sample of pre-retired households.

5. Conclusions

The demographic pressures of population aging require forward-looking action from policy makers to preserve the financial viability of the Social Security program. One proposed change is to increase the age of eligibility for full retirement benefits further or more rapidly than the currently planned gradual increase from 65 to 67 over the next 25 years. Proposals have also been made to increase the minimum age to receive any Social Security retirement pension (Apfel 1998; Mitchell and Quinn 1995). The rationale for increasing retirement age is to reduce the long-term deficit in the Social Security Trust Fund by increasing the amount that individuals pay into the Trust Fund, and reducing the benefits they draw out. The primary justifications for the recommendations are longer life expectancy and improved health of the nation's elderly. Increasing the retirement age has implications for the financial solvency of the Social Security system, supply and demand in the labor market, and the economic well-being of individuals. Implications for the economic well-being of individuals is of most interest in this research.

With respect to financial solvency, increasing the age at which individuals can draw benefits creates incentives for workers to remain in the work force thereby increasing the revenues to the Trust Fund and decreasing the number of years over which benefits are paid. Implications for the labor market depend on the ability of the labor market to employ increased numbers of older workers, and employer willingness to retain or hire elderly workers in the face of negative perceptions related to costs and

productivity. Implications for individual well-being depend on the importance of Social Security income, the impact of delayed receipt of Social Security income, the ability to continue working to the age of eligibility, and individual preferences related to retirement age. Additionally, increasing the age of eligibility for full Social Security retirement benefits has possible spill-over effects to other government programs, such as Supplemental Security Income and Disability Insurance (Mitchell and Phillips 2001; Bovbjerg 1998).

With respect to preferences, the planned age of retirement in the U.S. varies widely, averaging 62.3 years. Among U.S. householders currently working full-time, nearly 17% plan to retire before age 56, and over 14% plan to still be working full-time after age 65. The descriptive information on the components of retirement wealth provide some evidence that households that are able to secure sufficient retirement income from saving and pension, either prefer or are able to afford to retire before the age of eligibility for Social Security benefits. For households that are more dependent on Social Security income in retirement, the timing of retirement is dependent upon eligibility for Social Security benefits.

Retirement wealth includes personal savings, Social Security, and pensions. In general, Social Security provides a larger share of retirement wealth than savings, and the smallest share of retirement wealth is contributed by pensions. The relative importance of Social Security as a component of retirement wealth varies by planned age of retirement. Social Security provides a relatively larger share and pension income provides a relatively smaller share of retirement wealth for planned retirement at age 62 or older compared to planned retirement before age 62. Savings provides a relatively larger share of retirement wealth for retirement planned between ages 56 and 61 or planned at age 69 or later compared to other ages.

Retirement wealth adequacy rates and retirement wealth to needs ratios both increase with planned retirement age of the householder. Retirement at later ages, *ceteris paribus*, increases the time over which assets accumulate (thus increasing retirement wealth), raises the level of the Social Security benefit, and decreases the amount of time spent after retirement (thus decreasing retirement needs).

Based on simulations, the impact of changes in the age of eligibility for Social Security benefits on retirement wealth adequacy depends on behavioral responses to these changes. In the absence of changes in the age of planned retirement, increases in the age of eligibility for Social Security benefits reduce retirement wealth adequacy across all households. This reduction is caused by declines in the level of Social Security income due to larger absolute reductions for early retirement and smaller absolute increases for delayed retirement when the full retirement age is 67 compared to 65. At the other extreme, if increases in the age of eligibility for Social Security benefits is accompanied by universal increases in planned retirement age to 67 or later, retirement wealth adequacy improves for households that had previously planned to retire before age 67. Retirement wealth from savings, Social Security, and pensions all increase, although the increases are much larger for savings and pensions than for Social Security. The improvements in retirement adequacy are due to both increases in the level of retirement wealth and decreases in the level of retirement needs since later retirement reduces the number of years spent in retirement. Households with a planned retirement age of 69 years or older experience a slight decline in retirement wealth adequacy as a result of increasing the age of eligibility for full Social Security benefits. This decline is due to reductions in the level of Social Security wealth since the delayed retirement credit is calculated relative to a full retirement age of 67 compared to 65 under the current system.

The simulations suggest that if households postpone retirement in response to increases in the age of eligibility for Social Security benefits, retirement adequacy of U.S. households is likely to improve. However, most of the improvement is due to increases in retirement income from savings and pensions, with a much smaller increase in Social Security income. The observed increases in the levels of retirement wealth from savings and pensions are due to the longer pre-retirement period over which these resources are accumulated. The increase in the level of Social Security income is the result of postponement of retirement to the full retirement age for Social Security benefits. In addition, postponement of retirement also results in a decrease in the level of retirement needs due to fewer years spent in retirement.

The simulations represent lower and upper bounds for contemplating the impact of changes in the age of eligibility for full Social Security benefits on economic well-

being of individuals and households. The “best case” scenario assumes that all current full-time workers would be able to maintain full-time employment until age 67. Inability to maintain full-time employment through the full retirement age reduces retirement wealth and the absolute level of the reduction increases with the full retirement age. Even in the scenario where households postpone retirement to the full retirement age, nearly one third of households remain inadequately prepared for retirement.

6. References

- Apfel, Kenneth S. 1998. Testimony Before House Ways and Means Subcommittee on Social Security by Social Security Commissioner Kenneth S. Apfel (February 26).
- Bernheim, B. Douglas. 1996. The Merrill Lynch Baby Boom Retirement Index: Update '96. Stanford University, Merrill Lynch & Co., Inc.
- Boskin, Michael J. 1977. “Social Security and Retirement Decisions.” Economic Inquiry, 15:1-25.
- Bovbjerg, Barbara D. 1998. “Social Security Reform: Raising the Retirement Ages Improves Program Solvency But May Cause Hardship for Some.” Government Accounting Office, T-HEHS-98-207 (July 15).
- Burns, Sharon A. and Richard Widdows. 1988. “An Estimation of Savings Needs to Adequately Fund Baby Boomers’ Retirement.” In V. Hampton (ed.) Proceedings of the 34th Annual Conference of the American Council on Consumer Interests, Columbia, MO: American Council on Consumer Interests:15-18.
- Burtless, Gary. 1986. “Social Security, Unanticipated Benefit Increases, and the Timing of Retirement.” Review of Economic Studies, 53(5):781-805.
- Burtless, Gary and Robert A. Moffitt. 1985. “The Joint Choice of Retirement Age and Postretirement Hours of Work.” Journal of Labor Economics, 3(2):209-236.
- Diamond, Peter A. and Jerry A. Hausman. 1984. “Individual Retirement and Savings Behavior.” Journal of Public Economics, 23:81-114.
- Duncan, Greg J., Olivia S. Mitchell, and James N. Morgan. 1984. “A Framework for Setting Retirement Savings Goals.” Journal of Consumer Affairs, 18(1):22-46.
- Engen, Eric M., William G. Gale, and Cori E. Uccello. 2000. “The Adequacy of Household Saving.” CRR WP 2000-01. Center for Retirement Research at Boston College.
- Fields, Gary S. and Olivia S. Mitchell. 1984. “Economic Determinants of the Optimal Retirement Age: An Empirical Investigation.” Journal of Human Resources, 19(2):245-262.
- Hurd, Michael D. 1997. “The Economics of Individual Aging.” In Mark R. Rosenzweig and Oded Stark eds. Handbook of Population and Family Economics, Volume 1B. New York: New Holland:891-966.
- Ibbotson Associates. 1999. Stocks, Bonds, Bills, and Inflation 1999 Yearbook. Chicago, IL: Ibbotson Associates.
- Ibbotson, Roger G. and Laurence B. Siegel. 1984. “Real Estate Returns: A Comparison With Other Investments.” AREUEA Journal, 12(3):219-242.

- Kennickell, Arthur B., Martha Starr-McCluer, and Brian J. Surette. 2000. "Recent Changes in U.S. Family Finances: Results from the 1998 Survey of Consumer Finances." Federal Reserve Bulletin:1-29 (January).
- Kotlikoff, Laurence J. 1979. "Testing the Theory of Social Security and Life Cycle Accumulation." The American Economic Review, 69(3):396-410.
- Li, Jieyu, Catherine P. Montalto, and Loren V. Geistfeld. 1996. "Determinants of Financial Adequacy for Retirement." Financial Planning and Counseling, 7(1):39-48.
- Mitchell, Olivia S. and James F. Moore. 1998. "Can Americans Afford to Retire? New Evidence on Retirement Saving Adequacy." Journal of Risk Insurance, 65:371-400 (December).
- Mitchell, Olivia S. and John W. R. Phillips. 2001. Eligibility for Social Security Disability Insurance." Paper presented at the Third Annual Conference of the Retirement Research Consortium, Washington, DC (May).
- Mitchell, Olivia S. and Joseph F. Quinn. 1995. "Final Report to the Technical Panel on Trends and Issues in Retirement Savings." Washington, D.C.: 1994-95 Advisory Council on Social Security.
- Modigliani, Franco and Richard Brumberg. 1954. "Utility Analysis and the Consumption Function: An Interpretation of Cross-Section." In Kenneth Kurihara, ed. Post Keynesian Economics. New Brunswick, NJ: Rutgers University Press:388-446.
- Moore, James F. and Olivia S. Mitchell. 2000. "Projected Retirement Wealth and Savings Adequacy in the Health and Retirement Study." In Olivia S. Mitchell, P. Brett Hammond, and Anna M. Rappaport, eds. Forecasting Retirement Needs and Retirement Wealth. Philadelphia: University of Pennsylvania Press.
- Montalto, Catherine, Yoonkyung Yuh, and Sherman Hanna. 2000. "Determinants of Planned Retirement Age." Financial Services Review, 9:1-15.
- Palmer, Bruce A. 1989. "Tax Reform and Retirement Income Replacement Ratios." The Journal of Risk and Insurance, 56:702-725.
- Palmer, Bruce A. 1994. "Retirement Income Replacement Ratios: An Update." Benefits Quarterly, 10(2):59-75.
- Quinn, Joseph F. 1977. "Microeconomic Determinants of Early Retirement: A Cross-Sectional View of White Married Men." The Journal of Human Resources, 12(3):329-346.
- Samwick, Andrew A. 1998. "New Evidence on Pensions, Social Security, and the Timing of Retirement." Journal of Public Economics, 70(2):207-236.
- Schulz, James H. 1992. The Economics of Aging. Westport, CT: Auburn House.
- Social Security Administration. 1997. Social Security Programs in the United States. SSA Publication No. 13-11758. Washington, DC: U.S. Government Printing Office.
- Social Security Administration. 1998. Annual Statistical Supplement, 1998, to the Social Security Bulletin. SSA Publication No. 13-11700. Washington, DC: U.S. Government Printing Office.
- Uccello, Cori E. 1998. "Factors Influencing Retirement: Their Implications for Raising Retirement Age." AARP Public Policy Institute Report No. 9810. Washington, D.C.: American Association of Retired Persons.
- U.S. Bureau of Labor Statistics. 1999. Consumer Expenditure Survey: 1997 Interview Survey CD ROM/Public Use Tape Documentation. Washington, DC: U.S. Bureau of Labor Statistics.

- U.S. Department of Commerce. 2000. Census Bureau Projects Doubling Of The Nation's Population By 2100. CB00-05. Washington, DC: Bureau of the Census.
- Yuh, Yoonkyung, Sherman Hanna, and Catherine P. Montalto. 1998. "Mean and Pessimistic Projections of Retirement Adequacy." Financial Services Review, 7(3): 175-193.
- Yuh, Yoonkyung, Catherine P. Montalto, and Sherman Hanna. 1998. "Are Americans Prepared for Retirement?" Financial Counseling and Planning, 9(1):1-12.

Table 1. Demographic and Financial Characteristics, Behaviors and Attitudes by Planned Retirement Age.

Characteristic		Planned retirement age (PRA)					Test Statistic [†]	p-value
		<=55	56-61	62-64	65-68	69+		
Weighted sample size	Number	6,050,681	6,447,716	5,893,885	13,830,000	3,613,837		
	Percent	(16.9%)	(18.0%)	(16.5%)	(38.6%)	(10.1%)		
Current age	Years	41.70	46.28	50.04	46.79	52.04	F=464.81	p<.0001
Years of education	Years	13.75	14.34	13.70	13.89	14.33	F=31.58	p<.0001
Years of full-time work experience	Years	21.68	25.45	28.55	25.54	29.07	F=265.75	p<.0001
1997 Household income	Median	\$ 62,000	\$ 62,000	\$ 51,000	\$ 50,000	\$ 51,000	F=8.11	p<.0001
	Mean	\$ 83,962	\$ 103,699	\$ 66,643	\$ 67,922	\$ 80,138		
Household net worth	Median	\$ 121,100	\$ 179,940	\$ 147,000	\$ 93,400	\$ 106,700	F=32.01	p<.0001
	Mean	\$ 354,235	\$ 506,347	\$ 295,055	\$ 277,084	\$ 496,713		
Have a defined contribution account	Percent	61.68	60.63	63.34	55.62	43.75	$\chi^2=18.9434$	p=.0008
Have a defined benefit pension	Percent	38.03	39.53	35.81	32.94	15.17	$\chi^2=30.2269$	p<.0001
Family has a saving rule	Percent	65.80	70.08	71.53	57.26	48.49	$\chi^2=35.9035$	p<.0001
Retirement – important saving goal	Percent	72.17	73.08	76.36	60.80	62.47	$\chi^2=28.9124$	p<.0001
Expects sufficient retirement income	Percent	54.01	56.90	57.24	46.04	36.58	$\chi^2=26.5093$	p<.0001
Lucky wrt financial goals	Percent	77.12	70.01	71.74	62.16	67.15	$\chi^2=20.9830$	p=.0003
Percent with positive levels of retirement wealth from:								
Saving (%)	Percent	99.47	99.48	99.92	99.76	97.64	$\chi^2=11.6857$	p=.0198
Social Security (%)	Percent	97.57	94.18	97.38	96.99	91.55	$\chi^2=14.8016$	p=.0051
Pension (%)	Percent	59.12	54.02	57.91	49.88	31.78	$\chi^2=34.8957$	p<.0001

[†] Analysis of variance used for continuous variables and chi-square analysis used for categorical variables to test for statistical differences between the subgroups defined by planned retirement age.

Source: 1998 Survey of Consumer Finances (SCF98); All statistics are calculated using the SCF final nonresponse-adjusted sampling weights (X42001).

Table 2. Distribution of Components of Retirement Wealth by Planned Retirement Age.

Characteristic	Planned retirement age (PRA)						Test Statistic [†]	p-value	
	<=55	56-61	62-64	65-68	69+				
Retirement wealth (\$)	Mean	993,073	1,479,464	908,225	1,148,552	2,132,084	F=64.63	p<.0001	
	Quantiles	Maximum	445,824,000	717,665,000	522,385,686	621,603,000			2,120,590,000
	90 th	1,628,010	3,004,900	1,543,457	2,040,560	4,099,920			
	75 th	1,021,320	1,322,400	951,430	1,015,740	1,249,700			
	50 th	571,730	780,596	610,069	584,418	608,099			
	25 th	318,813	444,033	344,789	318,903	265,833			
	10 th	184,339	272,752	191,640	182,603	162,548			
	Minimum	4,453	1,342	26,591	206	210			
Saving (\$)	Mean	577,104	928,120	483,517	663,037	1,559,919	F=65.40	p<.0001	
	Quantiles	Maximum	445,450,000	716,849,000	521,690,000	620,903,000			2,046,190,000
	90 th	1,036,760	1,508,780	940,176	1,071,450	3,006,220			
	75 th	450,846	686,662	438,700	423,039	666,032			
	50 th	176,982	271,014	206,347	164,040	207,309			
	25 th	81,242	124,900	88,509	65,597	68,162			
	10 th	15,227	38,557	19,064	4,406	4,229			
	Minimum	0	0	0	0	0			
Social Security (\$)	Mean	248,670	276,846	263,598	279,624	249,492	F=15.12	p<.0001	
	Quantiles	Maximum	602,606	680,823	832,628	702,949			707,693
	90 th	389,441	414,856	400,651	449,710	483,699			
	75 th	330,068	360,110	355,282	377,229	366,009			
	50 th	275,341	318,940	297,520	298,027	221,848			
	25 th	147,631	161,382	158,245	161,512	139,386			
	10 th	103,674	109,857	112,354	121,784	37,757			
	Minimum	0	0	0	0	0			
Pension (\$)	Mean	167,298	274,498	161,110	205,891	322,673	F=9.76	p<.0001	
	Quantiles	Maximum	8,372,801	23,335,451	10,548,058	7,535,521			90,418,905
	90 th	426,331	712,841	482,483	497,202	626,625			
	75 th	198,668	319,920	236,230	192,127	43,673			
	50 th	41,861	31,014	28,900	0	0			
	25 th	0	0	0	0	0			

[†] Analysis of variance used to test for statistical differences between the subgroups defined by planned retirement age.

Source: 1998 Survey of Consumer Finances (SCF98); All statistics are calculated using the SCF final nonresponse-adjusted sampling weights (X42001).

Table 3. Components of Retirement Wealth by Planned Retirement Age.

Characteristic		Planned retirement age (PRA)					Test Statistic [†]	p-value
		<=55	56-61	62-64	65-68	69+		
Components of retirement wealth								
Saving	Median	\$ 176,982	\$ 271,014	\$ 206,347	\$ 164,040	\$ 207,309	F=65.40	p<.0001
	Mean	\$ 577,104	\$ 928,120	\$ 483,517	\$ 663,037	\$ 1,559,919		
Social Security	Median	\$ 275,341	\$ 318,940	\$ 297,520	\$ 298,027	\$ 221,848	F=17.80	p<.0001
	Mean	\$ 248,670	\$ 276,846	\$ 263,598	\$ 279,624	\$ 249,492		
Pension	Median	\$ 41,861	\$ 31,014	\$ 28,900	0	0	F=9.76	p<.0001
	Mean	\$ 167,298	\$ 274,498	\$ 161,110	\$ 205,891	\$ 322,673		
Share of total retirement wealth from:								
Saving	Median	0.3529	0.3992	0.3672	0.3051	0.3717	F=87.77	p<.0001
	Mean	0.3898	0.4464	0.3913	0.3523	0.4407		
Social Security	Median	0.4305	0.3526	0.4296	0.5033	0.4883	F=68.12	p<.0001
	Mean	0.4549	0.3837	0.4638	0.5069	0.4619		
Pension	Median	0.0709	0.0577	0.0457	0.0000	0.0000	F=33.02	p<.0001
	Mean	0.1553	0.1699	0.1445	0.1408	0.0974		
Adequate retirement wealth (%)	Percent	41.51	57.33	58.83	58.49	64.61	$\chi^2=28.6886$	p<.0001
Retirement wealth to needs (ratio)	Median	0.8489	1.1424	1.1311	1.1411	1.2534	F=55.73	p<.0001
	Mean	1.1017	1.7331	1.4079	1.6934	3.1528		
Retirement wealth	Median	\$ 571,730	\$ 780,596	\$ 610,069	\$ 584,418	\$ 608,099	F=64.64	p<.0001
	Mean	\$ 993,073	\$ 1,479,464	\$ 908,225	\$ 1,148,552	\$ 2,132,084		
Retirement need	Median	\$ 702,172	\$ 682,070	\$ 542,931	\$ 495,137	\$ 435,658	F=32.71	p<.0001
	Mean	\$ 789,983	\$ 773,957	\$ 586,619	\$ 572,282	\$ 530,002		
Components of retirement saving								
Financial assets	Median	\$ 65,493	\$ 96,836	\$ 51,611	\$ 49,438	\$ 39,925	F=52.59	p<.0001
	Mean	\$ 271,264	\$ 404,103	\$ 244,659	\$ 301,341	\$ 551,929		
Nonfinancial assets	Median	\$ 99,000	\$ 135,000	\$ 100,000	\$ 87,000	\$ 110,000	F=56.22	p<.0001
	Mean	\$ 305,840	\$ 524,017	\$ 238,858	\$ 361,696	\$ 1,007,990		
Components of retirement pension (median values=0 across all groups)								
Defined contribution accounts	Mean	\$ 109,629	\$ 144,459	\$ 74,434	\$ 137,150	\$ 285,709	F=11.19	p<.0001
Defined benefit pensions	Mean	\$57,669	\$ 130,038	\$ 86,675	\$ 68,741	\$ 36,964	F=17.19	p<.0001

[†] Analysis of variance used for continuous variables and chi-square analysis used for categorical variables to test for statistical differences between the subgroups defined by planned retirement age.

Source: 1998 Survey of Consumer Finances (SCF98); All statistics are calculated using the SCF final nonresponse-adjusted sampling weights (X42001)

Table 4. Effect of Changes in the Age of Eligibility for Social Security Benefits on Retirement Wealth Adequacy (Simulations)

Indicator of wealth adequacy		Planned retirement age (PRA)				
		<=55	56-61	62-64	65-68	69+
Adequate retirement wealth						
Worst case scenario	Percent	40.35	55.47	55.42	55.26	62.78
Current scenario	Percent	41.51	57.33	58.83	58.49	64.61
Best case scenario	Percent	n.a.	n.a.	n.a.	70.77	64.53
Retirement wealth to needs (ratio)						
Worst case scenario	Median	.8404	1.1221	1.0757	1.1067	1.2268
	Mean	1.0860	1.7082	1.3686	1.6557	3.1196
Current scenario	Median	0.8489	1.1424	1.1311	1.1411	1.2534
	Mean	1.1017	1.7331	1.4079	1.6934	3.1528
Best case scenario	Median	n.a.	n.a.	n.a.	1.4692	1.2268
	Mean	n.a.	n.a.	n.a.	2.3966	3.1329
Share of total retirement wealth from:						
Saving						
Worst case scenario	Median	0.3589	0.4122	0.3767	0.3161	0.3864
	Mean	0.3959	0.4546	0.4029	0.3615	0.4484
Current scenario	Median	0.3529	0.3992	0.3672	0.3051	0.3717
	Mean	0.3898	0.4464	0.3913	0.3523	0.4407
Best case scenario	Median	n.a.	n.a.	n.a.	0.3440	0.3862
	Mean	n.a.	n.a.	n.a.	0.3886	0.4446
Social Security						
Worst case scenario	Median	0.4189	0.3366	0.4094	0.4851	0.4690
	Mean	0.4464	0.3725	0.4483	0.4946	0.4527
Current scenario	Median	0.4305	0.3526	0.4296	0.5033	0.4883
	Mean	0.4549	0.3837	0.4638	0.5069	0.4619
Best case scenario	Median	n.a.	n.a.	n.a.	0.4263	0.4783
	Mean	n.a.	n.a.	n.a.	0.4485	0.4576
Pension						
Worst case scenario	Median	0.0736	0.0605	0.0479	0.0000	0.0000
	Mean	0.1577	0.1730	0.1488	0.1439	0.0990
Current situation	Median	0.0709	0.0577	0.0457	0.0000	0.0000
	Mean	0.1553	0.1699	0.1445	0.1408	0.0974
Best case scenario	Median	n.a.	n.a.	n.a.	0.0608	0.0000
	Mean	n.a.	n.a.	n.a.	0.1629	0.0978
Retirement wealth (\$)						
Worst case scenario	Median	562,492	754,229	593,463	556,430	591,580
	Mean	981,899	1,462,670	887,414	1,129,971	2,117,100
Current scenario	Median	571,730	780,596	610,069	584,418	608,099
	Mean	993,073	1,479,464	908,225	1,148,552	2,132,084
Best case scenario	Median	n.a.	n.a.	n.a.	724,304	591,580
	Mean	n.a.	n.a.	n.a.	1,616,473	2,125,619
Retirement needs (\$)						
Worst case scenario	Median	702,172	682,070	542,931	495,137	435,658
	Mean	789,983	773,957	586,619	572,282	530,002
Current scenario	Median	702,172	682,070	542,931	495,137	435,658
	Mean	789,983	773,957	586,619	572,282	530,002
Best case scenario	Median	n.a.	n.a.	n.a.	493,573	435,658
	Mean	n.a.	n.a.	n.a.	561,530	530,002

NOTE: n.a.: information is not applicable since simulation forces retirement to age 67 or later
Source: 1998 Survey of Consumer Finances (SCF98); All statistics are calculated using the SCF final nonresponse-adjusted sampling weights (X42001).

Table 5. Effect of Changes in the Age of Eligibility for Social Security Benefits on the Level of Retirement Wealth (Simulations)

Characteristic		Planned retirement age (PRA)				
		<=55	56-61	62-64	65-68	69+
Components of retirement wealth from:						
Saving						
Worst case scenario	Median	176,982	271,014	206,347	164,040	207,309
	Mean	577,104	928,120	483,517	663,037	1,559,919
Current scenario	Median	176,982	271,014	206,347	164,040	207,309
	Mean	577,104	928,120	483,517	663,037	1,559,919
Best case scenario	Median	n.a.	n.a.	n.a.	223,439	207,309
	Mean	n.a.	n.a.	n.a.	1,014,071	1,559,919
Social Security						
Worst case scenario	Median	260,084	297,469	273,958	280,468	208,045
	Mean	237,497	260,052	242,788	261,043	234,507
Current scenario	Median	275,341	318,940	297,520	298,027	221,848
	Mean	248,670	276,846	263,598	279,624	249,492
Best case scenario	Median	n.a.	n.a.	n.a.	326,523	208,045
	Mean	n.a.	n.a.	n.a.	299,082	243,026
Pension						
Worst case scenario	Median	41,861	31,014	28,900	0	0
	Mean	167,298	274,498	161,110	205,891	322,673
Current scenario	Median	41,861	31,014	28,900	0	0
	Mean	167,298	274,498	161,110	205,891	322,673
Pension	Median	n.a.	n.a.	n.a.	41,745	0
	Mean	n.a.	n.a.	n.a.	303,321	322,673

NOTE: n.a.: information is not applicable since simulation forces retirement to age 67 or later

Source: 1998 Survey of Consumer Finances (SCF98); All statistics are calculated using the SCF final nonresponse-adjusted sampling weights (X42001).

Table 6. Demographic Characteristics of Total Sample, of all Households with Inadequate Retirement Wealth, and of Households with Inadequate Retirement Wealth under Scenarios Reflecting Changes in Age of Eligibility for Social Security Benefits (column percents)

Characteristic		All households	Households w/ inadequate retirement wealth under various scenarios		
			Worst case	Current	Best case
All households (row percent)		100.0	46.43	43.19	29.85
Current age	35-40	25.05	27.42	28.58	25.56
	41-45	22.96	22.97	23.63	24.03
	46-50	20.01	19.98	19.89	19.71
	51-55	15.58	14.84	14.47	15.00
	56-60	10.93	10.07	9.33	9.77
	61-65	3.83	3.56	2.87	4.13
	66 and over	1.64	1.16	1.23	1.79
Planned retirement age	55 years or younger	16.88	21.69	22.49	n.a.
	56 to 61 years	17.99	17.25	17.48	n.a.
	62 to 64 years	16.45	15.79	15.42	n.a.
	65 to 68 years	38.60	37.19	36.48	88.08
	69 years or older	10.08	8.08	8.13	11.92
Education	Less than high school	6.29	8.09	7.83	9.04
	High school graduate	30.15	33.52	33.51	34.15
	Some college	28.28	30.67	30.36	30.14
	College grad or more	35.28	27.72	28.30	26.67
Marital status	Married	67.98	61.17	59.87	55.42
	Unmarried male	13.31	23.16	16.22	18.50
	Unmarried female	18.72	15.67	23.91	26.08
Race/Ethnicity	White, NonHispanic	83.45	79.14	78.36	76.76
	Black, NonHispanic	9.14	12.39	12.96	13.21
	Hispanic	4.25	5.35	5.56	6.67
	Other, NonHispanic	3.16	3.12	3.12	3.36
Household income	Less than \$25,000	11.46	17.67	18.28	22.89
	\$25,000 to \$49,999	31.14	38.40	38.14	39.30
	\$50,000 to \$99,999	41.82	34.69	34.16	30.01
	\$100,000 or more	15.59	9.24	9.42	7.81
Household net worth	Less than \$25,000	17.45	30.82	32.22	42.42
	\$25,000 to \$99,999	26.88	34.89	34.80	34.19
	\$100,000 to \$249,999	27.49	23.90	23.30	17.06
	\$250,000 or more	28.18	10.40	9.68	6.32
Have a defined contribution acct		57.62	47.09	46.70	38.30
Have a defined benefit pension		33.67	23.28	21.83	19.94
Family has a saving rule		62.47	52.40	51.07	43.86
Retirement is an important saving goal		67.66	58.65	57.67	50.35
Expect sufficient retirement income		50.23	48.34	47.43	43.89

Source: 1998 Survey of Consumer Finances (SCF98); All statistics are calculated using the SCF final nonresponse-adjusted sampling weights (X42001).

Appendix Table A. Demographic and Financial Characteristics, and Components of Retirement Wealth for Full Sample.

Characteristic		
Current age (years)	Mean	46.90
Planned retirement age (years)	Mean	62.29
Years of education	Mean	13.96
Years of full-time work experience	Mean	25.73
1997 Household income	Median	\$ 54,000
	Mean	\$ 8,088
Household net worth	Median	\$ 118,880
	Mean	\$ 356,457
Have a defined contribution account	Percent	57.62
Have a defined benefit pension	Percent	33.67
Family has a saving rule	Percent	62.47
Retirement – important saving goal	Percent	67.66
Expect sufficient retirement inc from Social Security and pension	Percent	50.23
Lucky with respect to financial goals	Percent	68.18
Components of retirement wealth		
Saving	Median	\$ 192,860
	Mean	\$ 757,133
Social Security	Median	\$ 289,432
	Mean	\$ 268,225
Pension	Median	\$ 11,548
	Mean	\$ 216,130
Share of total retirement wealth from:		
Saving	Median	0.3501
	Mean	0.3909
Social Security	Median	0.4476
	Mean	0.4644
Pension	Median	0.0169
	Mean	0.1448
Adequate retirement wealth (%)	Percent	56.09
Retirement wealth to needs (ratio)	Median	1.0954
	Mean	1.7009
Retirement wealth	Median	\$ 625,382
	Mean	\$ 1,241,487
Retirement needs	Median	\$ 564,622
	Mean	\$ 643,413
Percent with positive levels of retirement wealth from:		
Saving	Percent	99.48
Social Security	Percent	96.10
Pension	Percent	51.68
Components of savings		
Financial assets	Median	\$ 61,011
	Mean	\$ 330,697
Nonfinancial assets	Median	\$ 100,000
	Mean	\$ 426,436
Components of pensions (median values=0 across all groups)		
Defined contribution accounts	Mean	\$ 138,485
Defined benefit pensions	Mean	\$ 77,645

Source: 1998 Survey of Consumer Finances (SCF98); All statistics are calculated using the SCF final nonresponse-adjusted sampling weights (X42001).