

# **Single Life vs. Joint and Survivor Pension Payout Options: How Do Married Retirees Choose?**

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## **Executive Summary**

### **Objective**

This study measures the share of married retirees with pension annuities who forgo survivor protection and examines the factors influencing their decisions. It also measures the share of retirees whose decisions to forgo survivor protection can be justified by its high costs or low benefits, such as the presence of other types of financial protection for the spouse, poor health of the spouse, and low income.

### **Background**

Retirees in traditional defined benefit (DB) plans generally choose between single life annuities, which provide regular payments until the death of the pension recipient, and joint and survivor annuities, which continue to make payments to the spouse after the death of the retired worker. For a given pension, a single life annuity generates higher monthly payments than a joint and survivor annuity, because it generally provides payments for a shorter period of time. Married retirees who select the joint and survivor option typically accept lower monthly payments when both they and their spouses are alive, in return for insurance against the risk that they will die before their spouses and leave them with insufficient income. Whether retirees are willing to accept this trade-off may depend on a number of factors, including their economic situation and desire for additional income to meet current consumption needs, the availability of other resources that could protect the surviving spouse in the event of widowhood, and the relative life expectancy of each spouse.

Federal law encourages survivor protection by requiring employers that sponsor DB pension plans to offer joint and survivor annuities as the default payout option and by requiring pensioners to obtain the written consent of their spouses before they may choose a single life annuity. Proposed congressional legislation would strengthen these safeguards by extending them to employers that sponsor defined contribution (DC) plans.

### **Methods**

The analysis estimates a probit model to examine the decision to receive a single life annuity instead of a joint and survivor annuity. The covariates in the model consist of variables designed to capture the costs and benefits of survivor protection, including both financial and nonfinancial factors. The model is estimated on a sample of 763 married men and 386 married women receiving life annuities from their former employers in the 1992–2000 waves of the Health and Retirement Study (HRS).

## Results

Overall, 28 percent of married men and 69 percent of married women opt for single life annuities instead of joint and survivor annuities. Although this choice may jeopardize their spouses' economic security if they become widowed, most married retirees appear to make their pension payout decisions by rationally balancing the costs and benefits of each type of annuity. For example, the results indicate that retirees are more likely to reject survivor protection when:

- the spouse has access to alternative sources of survivor protection, such as pension coverage in their own names;
- they have limited pension wealth, increasing the financial pain of trading current pension income for survivor protection;
- they expect to outlive the spouse; and
- the relationship with the spouse is weak.

After accounting for other sources of spousal survivor protection, the affordability of spousal protection, and health status, only 7 percent of married men and 3 percent of married women reject spousal survivor protection without evidence of potentially compelling reasons.

## Conclusions

The analysis suggests that additional public efforts to encourage joint and survivor annuities are unnecessary, because most men already accept survivor protection when they retire and almost all of those who decline survivor protection appear to have legitimate reasons for their decisions. Persistent high poverty rates among elderly widows may justify additional policy initiatives to improve their retirement security, such as increasing Social Security's survivor benefits or minimum benefits. Among retirees taking annuities, it is unlikely that additional efforts to encourage joint and survivor annuities in employer-sponsored DB plans would substantially improve economic outcomes for widows in later life.

Current law may not, however, adequately protect the spouses of workers in DC plans, soon to be the dominant type of employer-sponsored retirement plan for retiring workers. Federal law does not require most employers with DC plans to offer annuity options or most DC plan participants to obtain the consent of their spouses to take their retirement benefits as lump-sum payments instead of as annuities. Lawmakers have recently proposed extending the spousal protections available in DB plans to DC plans. Given the apparent low rates of annuitization among DC plan participants, these proposals may have merit.

## **Single Life vs. Joint and Survivor Pension Payout Options: How Do Married Retirees Choose?**

Participants in employer-sponsored pension plans must decide how to collect their benefits when they retire. Retirees in traditional defined benefit (DB) plans generally choose between single life annuities, which provide regular payments until the death of the pension recipient, and joint and survivor annuities, which continue to make payments to the spouse after the death of the retired worker. For a given pension, a single life annuity generates higher monthly payments than a joint and survivor annuity of equivalent value, because it generally provides payments for a shorter period of time. Married retirees who select the joint and survivor option accept lower monthly payments when both they and their spouses are alive, in return for insurance against the risk that they will die before their spouses and leave them with insufficient income. The payout decision can have important implications for retirement income security. By protecting women who outlive their husbands from the loss of pension income, joint and survivor annuities can improve economic outcomes for elderly widows. But joint and survivor annuities also reduce retirement income and consumption levels when both spouses are alive.

Whether retirees are willing to accept this trade-off may depend on a number of factors, including their economic situation and desire for additional income to meet current consumption needs, the availability of other resources that could protect the surviving spouse in the event of widowhood, and the relative life expectancy of each spouse. For example, the joint and survivor option may appeal to couples in which the pensioner expects to die first, which in turn depends on the relative age and health status of each spouse. On the other hand, couples may prefer single life annuities when spouses have access to additional sources of income, such as pension benefits from their own employment. As a result, the increase over the past 30 years in women's labor

supply and pension coverage in their own names may reduce the future demand for joint and survivor annuities.

Federal law encourages survivor protection by requiring employers that sponsor DB pension plans to offer joint and survivor annuities as the default payout option and requiring pensioners to obtain the written consent of their spouses before they may choose a single life annuity. Proposed congressional legislation would strengthen these safeguards by extending them to employers that sponsor defined contribution (DC) plans. These plans, which offer workers tax-deferred retirement savings accounts, such as 401(k)s, have grown rapidly over the past 20 years and are now the dominant type of employer-sponsored retirement plan (Copeland 2002). Policymakers need better information about the annuity choices retirees are making in the current legal environment to determine whether current law on pension payouts needs to be strengthened and possibly extended to other types of retirement plans.

This paper measures the share of married retirees with pension annuities who forgo survivor protection and examines the factors influencing their decisions. The analysis is based on a sample of married men and women who began collecting pension annuity income between 1992 and 2000. Unlike previous research on annuity choices that examines a cross section of annuitants and relates the payout decisions they made in the past to current characteristics, this study relates the payout decision to contemporaneous characteristics of the retiring worker and spouse. We devote special attention to the role of health, financial resources, and the quality of the marriage to the decision to reject a joint and survivor annuity. We also measure the share of retirees whose decisions to forgo survivor protection can be explained by the presence of other types of financial protection for the spouse, poor health of the spouse, and low income.

## **The Importance of Survivor Benefits to Elderly Widows**

Despite recent improvements in the economic status of the elderly population, many older widows receive little income. In 2000, 17 percent of widowed women ages 65 and older lived in poverty and another 12 percent were near poor, with incomes between 100 percent and 125 percent of the federal poverty level (U.S. Social Security Administration 2002). By contrast, only 4 percent of married women ages 65 and older were poor, and 8 percent were near-poor. Even though widowed women make up only 26 percent of the elderly population, they account for 42 percent of all poor elderly adults.

The connection between socioeconomic status and longevity partly accounts for high poverty rates among older widows. Men who die at relatively young ages, before their wives, tend to receive less income than those who survive to older ages. One recent study found that women whose husbands predeceased them reported 15 percent less income on average before they became widowed than women whose husbands survived until the end of the study period (Holden and Zick 2000).

Widows fall even further behind when their husbands die. According to Holden and Zick (2000), average incomes for older widows in the early 1990s dropped 47 percent following the death of the husband. The loss of a spouse reduces household consumption needs, but not enough to completely offset this drop in income. The official poverty thresholds set by the federal government stipulate that a single older adult needs 21 percent less income than two adults living together.<sup>1</sup> Adjusting for consumption needs, Holden and Zick find that widowhood

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<sup>1</sup> Some critics contend that the economies of scale built into the official poverty thresholds are unrealistically large (Citro and Michael 1995), suggesting that an older widow may be able to maintain her pre-widowhood consumption level even if her income declined by more than 21 percent after the death of her husband.

in the early 1990s reduced income by about one-fifth for women ages 60 and older. As a result, 17 percent of older widows fell into poverty after the death of their husbands.<sup>2</sup>

Social Security benefits are the principal source of income for the majority of older adults (U.S. Social Security Administration 2002), and they fall sharply when women become widowed. Older adults eligible for Social Security can receive benefits as retired workers (based on their own lifetime covered earnings), spouses of retired workers if married (based on the spouses' lifetime earnings), or surviving spouses of retired workers if widowed. Spousal benefits equal one-half the benefit earned by the spouse, while survivor benefits equal the full benefit earned by the spouse. Beneficiaries receive the largest payment for which they are eligible. Thus, the loss in Social Security income following the death of a spouse depends on the distribution of benefits between the deceased spouse and the survivor. If both spouses received retired worker benefits, household Social Security income could fall by as much as 50 percent when one spouse dies. If the surviving spouse was receiving spousal benefits while married, widowhood reduces total Social Security benefits by 33 percent. Holden and Zick (2000) found that Social Security income falls by 44 percent following the death of the husband, accounting for about 38 percent of the total income loss associated with widowhood.

The loss of pension income also contributes to the economic hardships experienced by widows. Holden and Zick (2000) found that in the early 1990s, pension income fell by 58 percent on average when husbands died, accounting for 21 percent of the decline in income associated with widowhood. Pension income fell for widowed women during this period primarily because their husbands' pension plans did not include survivor protection. More than

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<sup>2</sup> Prior to widowhood, 4 percent of women in Holden and Zick's sample of eventual widows were impoverished, resulting in an overall poverty rate for elderly widows of about 21 percent. This poverty rate is higher than the rate we cite earlier for elderly widows in 2000 because the poverty rate for older adults declined during the 1990s (Proctor and Dalaker 2002).

40 percent of the widows of pensioners in Holden and Zick's sample did not report any pension income after their husbands died. However, husbands with joint and survivor annuities appear to have opted for fairly generous benefits for their surviving spouses: Widows who continued to receive pension income after the death of their husbands received benefits averaging 71 percent of the level received by the couple before the husband's death.

Improving access to survivor benefits in employer-sponsored pension plans could raise incomes for older widows and lift many of them out of poverty and especially near poverty. The universal election of joint and survivor annuities by married men would have reduced widow poverty rates in the early 1990s by 5 percentage points, from 21 percent to 16 percent, and the share of widowed women with incomes below 150 percent of the poverty line by 21 percentage points, from 40 percent to 19 percent (Holden and Zick 2000).<sup>3</sup>

Federal pension law encourages joint and survivor annuity payouts. The Employee Retirement Income Security Act (ERISA) of 1974 requires employers that sponsor DB pension plans to offer retirees joint and survivor annuities as the default option for retiring workers. Before Congress enacted these rules, employer-sponsored plans did not have to offer survivor protection at all. The Retirement Equity Act (REA) of 1984 further required beneficiaries to obtain the written consent of their spouses before they could decline survivor benefits. These laws appear to have improved access to retirement benefits for surviving spouses. For example, among men with pension income in 1981, 64 percent of those who began collecting benefits after the passage of ERISA in 1974 chose a joint and survivor annuity, compared with only 48 percent of those who began collecting benefits beforehand (Holden and Nicholson 1998). The available evidence also indicates that the passage of REA raised the take-up of

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<sup>3</sup> The analysis does not consider, however, how the election of joint and survivor annuities would affect pre-widowhood income.



survivor annuities even further. Survivor benefit coverage for the wives of retirees with employer-sponsored pension coverage increased from about 70 percent in the four years before 1986, when REA went into effect, to about 77 percent in the four years following enactment (Aura 2001).<sup>4</sup> Legislation introduced in Congress in 2002 and 2003, but not yet passed into law, would extend spousal protections to employer-sponsored DC plans, which offer workers tax-deferred retirement savings accounts. These plans have grown rapidly over the past 20 years and now cover more workers than DB plans (Copeland 2002).

Mandating survivor benefits in employer-sponsored retirement plans will not help many widows with the lowest incomes, however, because few of them were married to men with pension coverage. Only 15 percent of older married couples in the bottom quintile of the income distribution received pension income in 2000, compared with more than half of all other older married couples (U.S. Social Security Administration 2002). And 39 percent of all women widowed in the early 1990s did not receive any pension income, either in their husbands' names or their own names, before the death of their husbands (Holden and Zick 2000).

### **The Pension Payout Decision**

While about three-quarters of married men with pension coverage now appear to elect joint and survivor annuities when they retire, forgoing survivor protection may be the best option for some men, even those fully committed to the welfare of their wives. For example, some couples have access to other resources that could protect the surviving spouse in the case of widowhood, making joint and survivor annuities redundant. If the pension in question is small and the couple has limited resources, they may not be able to reduce their pension income when

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<sup>4</sup> The U.S. General Accounting Office (1992) found that REA increased the election of survivor annuities by 15 percentage points, but Aura (2001) points out that this estimate probably overstates the impact of the legislation because the study compared the share of pensioners with survivor protection in the years with the highest take-up rates after the passage of REA with the share in years with average take-up rates before passage.

both spouses are alive in order to elect survivor protection. And if the spouse is likely to die before the pensioner, survivor protection becomes unnecessary. It is important to understand why some retirees turn down joint and survivor annuities so that we can determine whether additional measures are needed to protect surviving spouses.

There are many ways in which women can protect themselves against the risk of suffering a substantial drop in income at widowhood, in addition to having access to joint and survivor annuities through their husbands' employers. Pension coverage in one's own name probably offers the most security. Women who receive their own pension income are less likely to need the husband's survivor benefits to live comfortably in retirement if he should die first. Older women are still less likely than men to receive pension income, but the gap is closing as increasing numbers of women spend many years of their lives in the labor force. In fact, among full-time workers now nearing retirement, women are just as likely as men to have pension coverage on the current job, although women have not caught up to men in terms of pension wealth (Johnson, Sambamoorthi, and Crystal 1999). Couples can also purchase life insurance to replace the income of the pensioner if he dies first, or they can save more to finance consumption needs in the event of widowhood. Several studies have in fact found that men are less likely to choose joint and survivor annuities if their wives have their own pensions or other assets that can provide financial protection in case the husband dies first (Aura 2001; U.S. General Accounting Office 1988; Holden and Nicholson 1998).

Opting for survivor protection does not necessarily make sense for couples with limited financial resources, because joint and survivor annuities pay lower monthly benefits than single life annuities. Couples with small pensions and limited access to other sources of income or wealth may prefer to maximize their pension income when both spouses are alive and assume the

risk that the spouse will outlive the pensioner. In fact, earlier work has found that retirees with small pensions and low incomes are less likely to choose joint and survivor annuities than those with large pensions and high incomes (U.S. General Accounting Office 1988, 1992; Holden, Burkhauser, and Myers 1986). White men and well-educated men are more likely than men of color and those with limited education to choose joint and survivor annuities (Aura 2001; Holden and Nicholson 1988), perhaps because white men and well-educated men can generally better afford survivor protection.

Retirees in poor health and with shorter life expectancies than their spouses are especially likely to select joint and survivor annuities over single life annuities (Holden, Burkhauser, and Myers 1986; Holden and Nicholson 1998; Turner 1988). The chances that the spouse will eventually receive survivor benefits generally increase when the pensioner has health problems.

Although the existing literature provides valuable insights into annuitization choices, most previous studies use old data that predate the enactment of REA and in some cases even ERISA. It is important to reexamine annuitization decisions using more recent data that better describe the current legal, social, and economic environment. In addition, few studies examine the annuitization decision at the time retiring workers are choosing between joint and survivor and single life annuities. Instead, most studies examine a sample of retirees with pension income, and relate the presence of survivor protection to current characteristics, sometimes many years after the pensioner made the annuitization decision. There are two important limitations to this approach. First, it will understate the share of pensioners who choose joint and survivor annuities if those who elect survivor protection exhibit higher mortality rates than those who elect single life annuities, because the analysis includes only those who survive from the time of initial benefit receipt to the time of the survey. Second, the characteristics of the couple may change

over time, so that certain factors (such as strong physical or financial health) that motivated the choice of a particular payout option may no longer exist when the couple is surveyed years later. In particular, health problems that develop unexpectedly in retirement can obscure the estimated impact of health on annuitization decisions. Finally, because most of the existing research was motivated by concerns about the retirement security of widows, most studies focus exclusively on the annuitization decisions of married men. However, as more married women retire with substantial work experience and pension coverage in their own names, their annuitization choices are becoming increasingly important.

## **Methods**

We hypothesize that couples weigh the costs and benefits of survivor protection when making pension payout decisions, and that they become increasingly likely to opt for a single life annuity instead of a joint and survivor annuity as the cost of forgoing survivor protection falls. (Another important decision that retirees face is whether to take their pension benefits as an annuity or as a lump-sum distribution. The appendix explores this issue in detail.) Because most married adults care about their spouses' welfare, and federal law requires the spouse's written consent before the pensioner can forgo spousal survivor protection, the analysis assumes that both spouses have input into the payout decision, not just the pensioner. We examine the decision to receive a single life annuity instead of a joint and survivor annuity with a probit model, estimated for a sample of married adults receiving employer-sponsored retirement annuities. The model relates the annuity decision to characteristics of the pensioner and the spouse at the time the pensioner begins receiving pension income, rather than years after the annuity decision. Because the determinants of the payout decision are likely to differ by gender, we estimate the model separately for men and women.

The covariates in the model consist of variables designed to capture the costs and benefits of survivor protection, including both financial and nonfinancial factors. Financial variables in the model include measures of the value of the pension, the couple's financial resources, and the availability of alternative sources of survivor protection for the spouse. We expect that couples will be less likely to forgo survivor protection (and more likely to accept joint and survivor annuities) as the size of the monthly pension increases, reducing the financial pain of trading current pension income for survivor protection. For the same reason, we expect that couples with substantial financial resources are more likely to accept survivor protection than those with only limited means. In addition, the presence of alternative sources of spousal survivor protection, such as pension coverage in the spouse's name, diminishes the importance of joint and survivor annuities to the spouse's economic well-being in widowhood.<sup>5</sup> Thus, we expect that pensioners are more likely to reject spousal survivor protection when spouses have access to pension income from their own employers than when they lack coverage in their own names.

The model also includes a number of nonfinancial factors that are likely to play a role in the annuity payout decision, including the health of the pensioner relative to the spouse, attitudes about risk and the importance of providing survivor protection, and the length and quality of the marital relationship. We expect that pensioners will tend to reject joint and survivor annuities when their health is better than their spouses' health, decreasing the likelihood that spouses will become widowed and need survivor protection. Pensioners may be especially likely to elect joint and survivor annuities when they believe in the moral imperative of providing financial protection for their widows and when they are unwilling to take risks.

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<sup>5</sup> Financial wealth and nonpension income can also protect spouses in the event of widowhood. As a result, pensioners with substantial financial resources could be less willing to accept joint and survivor annuities than those with fewer assets and less income, even though they can afford the loss in pension income associated with the acceptance of spousal survivor protection.

The quality of the marriage might also affect the payout decision. Pensioners who are less committed to their spouses may be less willing to accept lower monthly payments when they are alive in order to secure survivor protection for their spouses, and may instead opt for single life annuities. Thus, if men and women whose marriages have not lasted for many years or who have been previously divorced feel less responsible for each other than those who have been married for many years and those who have been married only once, then the length of the marriage and past marital history may influence the payout decision. However, if federal laws requiring workers to obtain the consent of their spouses before they can turn down survivor protection are effective, then the quality of the marriage may not have any impact on the decision to accept joint and survivor annuities.

The model also controls for union membership (because unions may educate their members about the benefits of survivor protection), race (which may reflect unobservable differences in income and health), and educational attainment (which may reflect differences in financial savvy or attitudes about risk). Because some of the variables we examine may be collinear, we report results from three different specifications of the model, which include different combinations of covariates.

### ***Data and Sample***

The data for the project come from the 1992–2000 waves of the Health and Retirement Study (HRS). Designed and fielded by the University of Michigan for the National Institute on Aging, the HRS interviews a large, nationally representative sample of Americans at midlife and older ages and follows them over time. The survey collects detailed information from both husbands and wives on pension income, type of pension annuity, financial resources, health status, marital history, attitudes, and demographics.

We use data on the original HRS cohort, which consists of 9,741 respondents born between 1931 and 1941. The HRS also surveys the spouses of all respondents, even if they are not members of the specified birth cohort. Respondents were first interviewed in 1992, when they were ages 51 to 61, and they were reinterviewed in 1994, 1996, 1998, and 2000.<sup>6</sup> When interviewing married couples, the HRS collects household asset and income information from only one spouse, identified as the financially knowledgeable respondent. The survey oversamples African Americans, Hispanics, and Florida residents, and the analysis uses sample weights so that our estimates represent the underlying national population.

At each wave the HRS asks respondents whether they are receiving income from retirement pensions. For the two largest pensions, respondents report how much they received in the previous month, whether payments will continue until they die, whether the annuity payment adjusts automatically for changes in the cost of living, and whether their spouses would continue to receive payments after they die. We restrict our sample to married men and women who were employed and not receiving employer-sponsored pension income in 1992, and then began receiving life annuities from their former employers by 2000. The vast majority of pensioners in our sample participated in DB plans, although a few were in DC plans that annuitized their retirement benefits.<sup>7</sup> After we eliminate 45 cases with missing data on pension income, our sample consists of 763 men and 386 women.

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<sup>6</sup> Respondents were also interviewed in 2002, but these data were not available when we completed the analysis in April 2003. Additional biannual interviews are also planned. The HRS data system surveys three other cohorts as well. The Assets and Health Dynamics of the Oldest Old (AHEAD) cohort includes respondents born before 1924 who were interviewed in 1993, 1995, 1998, 2000, and 2002. Respondents in the Children of the Depression (CODA) cohort were born between 1924 and 1930, and those in the War Babies (WB) cohort were born between 1942 and 1947. The survey interviewed the CODA and WB respondents only in 1998, 2000, and 2002. Because only the respondents in the HRS cohort were followed for many years at ages when they are likely to begin receiving pension benefits, we do not include the other cohorts in our analysis.

<sup>7</sup> The data do not always permit us to match pensioners with the plans they held while working.

### ***Key Measures***

We set the dependent binary variable, identifying adults who forgo survivor protection for their spouses, equal to one if the spouse would not continue to receive any of the respondent's pension income if the pensioner died first. We base the measure on information collected at the time the respondent first reports receiving employer-sponsored pension income. Unless otherwise noted, we base all other variables on data collected at the interview immediately preceding the initial report of pension receipt, which roughly corresponds to the time the pensioner made the payout decision. We express all of the financial measures in our model in constant 2000 dollars, adjusted by changes in the Consumer Price Index.

We measure the size of the pension benefit as the sum of all monthly pension income received by the respondent. We express benefits received from joint and survivor annuities as the monthly benefit that would have been paid by an actuarially equivalent single life annuity, which pays higher monthly benefits for a given plan. The adjustment factor depends on the ages of both the pensioner and spouse and on whether the annuity includes automatic cost-of-living adjustments (COLA). For example, our adjustment algorithm indicates that the monthly benefit from a plan without COLA provisions would be 8.7 percent larger if taken as a single life annuity than as a joint and survivor annuity for married adults who begin collecting benefits at age 65 and are three years older than their spouses. Because the amount of the pension benefit is likely to raise the likelihood of accepting spousal survivor protection, but at a diminishing rate, we include the natural logarithm of the size of the monthly pension in the models.

We measure financial resources by household wealth and monthly nonpension income. Household wealth equals the net value of all assets held by the respondent and spouse at the time of the survey, including housing, expressed as a natural logarithm. It excludes, however, assets in



employer-sponsored pension plans and the value of future Social Security benefits. Monthly non-pension income includes all sources of income received by the respondent and spouse, except the respondent's pension income. Because we want a measure of resources available in retirement, we measure income at the interview in which the respondent first reports pension income (not the previous interview).<sup>8</sup>

The analysis measures alternative sources of spousal survivor protection by whether the spouse has pension coverage from the spouse's own past or present employers and by the value of life insurance held by the pensioner. However, we do not include a measure of life insurance in the final models because it was not significant in preliminary estimates.

The HRS survey asks all respondents to rate their overall health as excellent, very good, good, fair, or poor. We use these rankings to identify respondents who report better health than their spouses. Although these ratings are clearly subjective and the criteria that individuals use to rate their health probably varies substantially, previous research finds that self-assessed health status is a strong predictor of future mortality (Idler and Benyamini 1997). We experimented with alternative measures of relative health status, based on questions in the HRS about functional limitations, the presence of chronic health conditions, and expectations about surviving to ages 75 and 85, but none of these alternatives were related to the annuity payout decision.

We also construct several measures designed to reflect the quality of the marital relationship. The HRS asks respondents whether they generally enjoy the time they spend with

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<sup>8</sup> The survey collects data on some types of income, such as asset income, only for the previous calendar year, not for the current month. We estimate current monthly amounts for these types of income by dividing income received in the past year by 12. Earnings are also reported for the previous year. However, we are able to estimate earnings in the current month by multiplying the reported current wage by the reported number of hours worked in the past month.

their spouses. We classify pensioners as not enjoying time with their spouses if they said the time together was “not too enjoyable” or only “somewhat enjoyable,” instead of extremely or very enjoyable. We compute the length of the marriage in years, expressed as a natural logarithm to capture nonlinear effects of marriage duration on pension payout decisions. Couples whose marriages have endured for many years may have stronger relationships and may feel more responsible for each other than those who wed more recently. We experimented with indicators of a history of divorce, but dropped them from the final model because they were not significant in preliminary estimates. The model also includes an indicator identifying pensioners who report attending religious services more than one time per week. People who worship frequently may believe that they have a moral obligation to provide survivor protection to their spouses.

The HRS includes a question designed to measure respondents’ willingness to assume risk. In 1992, the survey asked respondents to imagine a scenario in which they had a good job that guaranteed them their current family income every year for life. Interviewers then asked them if they would accept a more risky job that with equal probabilities would either double their income or cut it by a third. Respondents who declined the risky job were asked if they would instead accept a job that would reduce their income by only 20 percent if the less desirable outcome were realized. We classify those who accepted the initial job offer as not risk averse, those who accepted the second job offer but not the first as moderately risk averse, and those who rejected both offers as very risk averse.<sup>9</sup> Previous research has found that HRS respondents who are unwilling to accept these hypothetical risky jobs are unlikely to engage in actual risky

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<sup>9</sup> The survey also includes a follow-up question for respondents who accepted the initial job offer, asking if they would still accept it if the bad outcome would cut their income in half. Because our preliminary analysis indicated that those who accept this offer were about as likely to elect joint and survivor annuities as those who decline it, our model does not use information from this supplemental question to further differentiate pensioners. Other waves of the survey include a similar set of questions about risk aversion. However, the wording of the question changes somewhat each year, so we used only the risk aversion data from the baseline 1992 survey in our model.

behaviors, such as smoking, drinking, forgoing insurance, and compiling a financial portfolio that is more heavily weighted toward stocks than Treasury bills (Barsky, et al. 1997).<sup>10</sup>

Indicators for spousal pension coverage, health status, religious service attendance, risk aversion, and enjoyment of time spent with the spouse are missing for a few members of our sample, because the HRS was unable to interview the spouses of some respondents and other respondents refused or were unable to answer some of the survey questions. Instead of dropping these cases from our analysis, which would reduce our sample size and could bias our estimates if the likelihood of responding is not random, we set the indicator for the measure that is missing equal to zero and create another indicator to identify respondents with missing data. The models include the missing data indicators, none of which are statistically significant.<sup>11</sup>

## **Results**

Table 1 reports the shares of married men and women with retirement annuities who reject spousal survivor protection and how they differ by key retiree and spouse characteristics. Asterisks denote statistically significant differences, as determined by F-tests. Overall, 28 percent of men opt for single life annuities instead of joint and survivor annuities. Men are significantly more likely to decline survivor protection as the value of the pension falls. For example, 37 percent of men with pensions valued at less than \$1,000 per month elect single life annuities, compared with only 19 percent of those with pensions worth \$2,000 or more per month. Men whose wives have pension coverage in their own names, men who are not risk averse, and African-American and Hispanic men are also especially likely to forgo spousal

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<sup>10</sup> Uccello (2000) also finds that a measure of risk aversion available in the Survey of Consumer Finances, based on the respondent's willingness to assume financial risks, predicts portfolio allocation choices.

<sup>11</sup> In our sample, spousal pension coverage is missing for 1.7 percent of men and 0.3 percent of women, health status is missing for 2.9 percent of men and 3.1 percent of women, religious attendance is missing for 1.8 percent of men and 2.8 percent of women, enjoyment of time spent with the spouse is missing for 7.5 percent of men and 3.1 percent of women, and risk aversion is missing for 7.9 percent of men and 3.6 percent of women.

survivor protection. In addition, table 1 suggests that wealth and the duration of the marriage may affect the pension payout decision, although the observed differences in rates of survivor protection by wealth and marriage duration are not statistically significant. More than half of married men with negative household wealth decline survivor protection, and men who have been married for fewer than 15 years are more likely to reject survivor protection than men with longer marriages.

Women are much more likely than men to reject spousal survivor protection, with slightly more than two-thirds of women electing single life annuities instead of joint and survivor annuities. Women are significantly more likely to reject survivor protection when their pensions are small, when their health is better than their spouses' health, and when spouses have pension coverage in their own names. Nonfinancial factors also appear to play important roles in the pension payout decision for women. For example, women who dislike spending time with their husbands are significantly more likely to reject survivor protection than women who enjoy their husband's company. In fact, all the women in our sample receiving retirement pensions who describe the time they spend with their spouses as "not too enjoyable" elect single life annuities instead of joint and survivor annuities (although this is a very small subgroup of the sample).

### ***Multivariate Estimates for Married Men***

Table 2 reports results from the probit model for married men, for three different specifications. The first specification includes only financial and health variables; the second specification adds variables designed to measure marriage quality, attendance at religious services, and risk aversion; and the final specification adds controls for union membership, race, and educational attainment. The table reports marginal effects, which show the percentage point increase in the probability of rejecting joint and survivor annuities associated with the given

variable, holding all other variables in the model constant. Standard errors are in parentheses, and asterisks identify effects that differ significantly from zero.

The results are generally consistent with our hypotheses that pensioners tend to reject spousal survivor protection when the spouse has access to alternative sources of financial protection if she becomes widowed and when the couple has only limited financial resources. Spousal pension coverage has a strong, positive effect on the likelihood that married men will reject joint and survivor annuities. About 57 percent of the men in our sample are married to women with access to their own pension benefits, and these men are between 13 and 15 percentage points more likely to decline survivor protection than men whose wives do not have pension coverage in their own names. In relative terms, being married to a woman with pension coverage in her own name increases the likelihood that a married man will opt for a single life annuity by more than 45 percent.<sup>12</sup> Greater household wealth and monthly pension income significantly decrease the likelihood that men will forgo spousal survivor protection, probably because those with substantial financial resources can trade current income for survivor protection and still live comfortably in retirement. Acceptance of joint and survivor annuities also rises with nonpension household income, but the effects are small and insignificant.

Nonfinancial factors are also important determinants of the pension payout decision. Consistent with our hypothesis that pensioners who expect to outlive their spouses tend to reject joint and survive annuities, we find that men who report better health than their wives are about 6 percentage points more likely to forgo spousal survivor protection than men whose health is worse or no better than their wives' health, although the effect becomes insignificant when we

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<sup>12</sup> Life insurance can also provide financial protection for women who become widowed, but it does not appear to affect pension payout decisions. Neither life insurance coverage nor the value of life insurance policies approached significance in our preliminary models, so we dropped these variables from our final specifications.

control for marriage duration. The length of the marriage significantly increases the likelihood that men will accept survivor protection for their spouses, perhaps because men in long-term marriages tend to feel more responsible for their wives' financial well-being than those who have been married for only a few years. Men who are not risk averse and who do not enjoy spending time with their spouses are more likely to reject spousal survivor protection than other men, but the effects are not significant. Men who attend religious services more than once per week are more likely to accept joint and survivor annuities than men who attend less frequently or not at all, perhaps because they feel a strong moral obligation to protect their spouses. African-American men are significantly more likely than non-Hispanic white men to reject survivor protection, even after controlling for financial resources, health status, and spouse's pension coverage. Union membership and educational attainment do not significantly affect pension payout decisions.

### ***Multivariate Estimates for Married Women***

Table 3 reports probit estimates for married women, for the same three specifications described in table 2. As with men, women receiving employer-sponsored retirement annuities are more likely to reject spousal survivor protection when the spouse has pension coverage in his own name than when the only pension benefits derive from his wife's employment. Although the size of the impact is about as large for women as for men, the effect is only marginally significant for women, probably because few husbands in our sample lack pension coverage. More than 90 percent of women receiving retirement annuities are married to husbands with pension coverage in their own names. The likelihood of rejecting joint and survivor pension annuities falls as the value of the pension increases, but again the effects are not significant in

every specification. Household wealth and nonpension household income are not significant predictors of the pension payout decision for married women.

Although financial factors appear to have smaller effects on pension payout decisions for women than for men, nonfinancial factors seem to be more important for women. Women who report not enjoying spending time with their husbands are 13 percentage points more likely to turn down survivor protection than women who enjoy the time they share with their husbands. Women in better health than their husbands are 10 percentage points more likely to reject joint and survivor annuities than women in equal or worse health. And women who attend religious services more than one time per week are 8 percentage points less likely to reject survivor protection than women who attend less frequently. Race, union membership, educational attainment, and the duration of the marriage do not significantly affect the pension payout decision.

### ***Identifying Annuitants Who Do Not Adequately Provide for Their Spouses***

Finally, we estimate the share of pensioners with life annuities from their former employers who fail to provide adequate financial protection to their spouses if they become widowed. As noted earlier, there are a number of compelling reasons to reject joint and survivor annuities. We identify pensioners with spouses who have access to other types of financial protection (and thus are unlikely to need pension survivor protection), pensioners with limited benefits or household income (who may not be able to afford survivor protection), and pensioners who are in better health than their spouses (and thus are likely to outlive their spouses). We then compute the cumulative share of pensioners who reject joint and survivor annuities and who do not fall within any of these categories that could potentially justify their decisions.

The analysis considers spouses to have adequate access to alternative types of survivor protection if they receive pension income in their own names, equal to at least 50 percent of the value of the pension income received by the pensioner; if they have pension coverage in their own names from a job that they have held for at least 20 years (because most pensions from jobs held for less time do not generate substantial benefits); if the couple is in the top quintile of the wealth distribution; or if the pensioner has adequate life insurance coverage, which we define as policies with face values that exceed five times the annual pension income. We define a small pension as one that provides less than \$250 per month in benefits, and we classify a couple as having limited income if their income leaves them below 125 percent of the federal poverty level.

Table 4 reports the results, separately for male and female annuitants. The cell entries indicate the share of pensioners who reject joint and survivor annuities and whose decision cannot be explained by the circumstances described in the first column of the row or any rows above it in the table. Overall, 28 percent of men receiving employer-sponsored retirement annuities forgo spousal survivor protection. However, many of these men are married to women who have access to adequate survivor protection through their own pension coverage, the ir husbands' life insurance coverage, or other assets. Accounting for these cases implies that only 11 percent of male annuitants leave their wives with inadequate survivor protection.

In addition, some men who do not provide adequate survivor protection to their spouses appear to lack sufficient resources to protect their wives, either because their pensions are very limited or because they are living near poverty. Only 10 percent of male annuitants fail to provide adequate financial protection for their wives if they become widowed even though they could afford to protect them. Finally, some men in this last group report better health than their



wives. If their better health means that they expect to outlive their wives, then they might reasonably choose to forgo survivor protection (although they are leaving their spouses at least somewhat financially vulnerable, because they could end up dying before their wives). Combining all of these potential explanations for rejecting survivor protection, we find that only 7 percent of men reject spousal survivor protection without evidence of a potentially compelling reason.

Among the two-thirds of female annuitants who turn down joint and survivor annuities, four-fifths are either married to men with pension coverage in their own names or have insurance coverage or other assets that would protect their husbands if they become widowed. As a result, only 12 percent of married female annuitants leave their husbands with inadequate survivor protection. And some of these women receive very small pensions or have limited incomes, so that only 7 percent of female annuitants could afford to provide survivor protection for their husbands but choose not to protect them. Of these, many report better health than their husbands. Altogether, only 3 percent of women reject spousal survivor protection without potentially strong reasons.

## **Conclusions**

Almost 30 percent of married men receiving employer-sponsored retirement annuities declined spousal survivor protection during the 1990s. Although this choice may jeopardize their wives' economic security if they become widowed, most men appear to make their pension payout decisions by rationally balancing the costs and benefits of single life annuities and joint and survivor annuities. For example, men are significantly less likely to opt for survivor protection when the monthly pension income they would lose by accepting a joint and survivor annuity instead of a single life annuity would substantially erode their current standard of living. Men with retirement annuities are also less apt to accept survivor protection when they are likely

to outlive their wives or when their wives have other types of insurance that can protect their standards of living in the event of widowhood, such as pension coverage in their own names. In addition, men who have been married for many years and who frequently attend religious services are likely to take joint and survivor annuities, perhaps because they feel especially obligated to protect their wives against the financial risks of widowhood.

Most men who reject survivor protection for their wives appear to have compelling reasons for their decisions. Many men who elect single life annuities instead of joint and survivor annuities are married to women with adequate survivor protection through other sources, such as pension coverage in their own names, life insurance coverage, or other financial assets that they can spend in later life. Only 11 percent of married men with employer-sponsored pensions leave their wives with inadequate survivor protection. And some of these men cannot afford survivor protection or may expect to outlive their wives. Overall, only 7 percent of men with employer-sponsored pension income reject spousal survivor protection without evidence of a potentially legitimate justification.

Women are much more likely than men to reject survivor protection, with slightly more than two-thirds of married women with pensions opting for single life annuities instead of joint and survivor annuities. But like men, they tend to reject spousal survivor protection only when their spouses have access to alternative sources of financial security or they expect to outlive their spouses. In fact, 97 percent of married women with employer-sponsored retirement annuities accept survivor protection, cannot afford survivor protection, are married to men with access to other types of survivor protection in the event of widowhood, or expect to outlive their husbands. Only 3 percent of women reject survivor protection without evidence of potentially legitimate reasons. The quality of the marital relationship also appears to be a strong factor in the

pension payout decision for women. Women who do not enjoy spending time with their spouses are much more likely to reject survivor protection than those who enjoy time spent with their husbands.

Our analysis does not measure the impact on payout decisions of REA, which requires spousal consent before pensioners can decline survivor protection. Many married men might accept survivor protection even in the absence of legal inducements because they care about the well-being of their wives, although previous studies have found that the share of male pensioners taking joint and survivor annuities increased after the enactment of REA in 1986 (Aura 2001, U.S. General Accounting Office 1992). But the results do suggest that additional measures to encourage workers to accept joint and survivor annuities from their employer-sponsored DB plans are not necessary, because most men already accept survivor protection when they retire, and those who decline generally appear to have legitimate reasons for their decisions. Persistent high poverty rates among elderly widows may justify additional policy initiatives to improve their retirement security, such as increasing Social Security's survivor benefits or minimum benefits. Among retirees taking an annuity, it is unlikely that additional efforts to encourage joint and survivor annuities in employer-sponsored DB plans (or to mandate them outright) would substantially improve economic outcomes for widows in later life.

Current law may not, however, adequately protect the spouses of workers in DC plans, soon to be the dominant type of employer-sponsored retirement plan for retiring workers. Federal law does not require most employers with DC plans to offer annuity options, and the provisions of REA do not apply to most DC plan participants who elect to take their retirement benefits as lump-sum payments instead of as annuities. Although research on payouts from DC plans is limited, the available evidence suggests that most retirees in DC plans take their benefits as

lump-sum payments instead of annuities (Brown 1999; Hurd, Lillard, and Panis 1998). Even if those who receive lump-sum payments from their employers use the proceeds to purchase annuities from insurance companies, their spouses' survivor benefits are not protected by federal pension law. (DC plan participants who receive annuities from their employers are subject to REA, however, and must obtain spousal consent before they can take single life annuities instead of joint and survivor annuities.) Lawmakers have recently proposed extending the spousal protections available in DB plans to DC plans. Given the apparent low rates of annuitization among DC plan participants, these proposals may have merit.

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**Table 1. Share of Married Annuitants Forgoing Spousal Survivor Protection, by Retiree and Spouse Characteristics**

	Men		Women	
	In Sample	Rejecting Joint and Survivor Annuity	In Sample	Rejecting Joint and Survivor Annuity
<b>ALL</b>	100.0%	28.4%	100.0%	68.6%
<b>Value of monthly pension</b>		***		***
Less than \$1,000	35.7	37.4	69.9	75.1
\$1,000 to \$1,999	29.3	28.8	23.9	55.9
\$2,000 or more	34.9	18.9	6.1	44.2
<b>Household wealth</b>				
Less than \$0	2.5	52.7	1.3	67.3
\$0 to \$49,999	23.5	30.0	18.0	70.8
\$50,000 to \$99,999	17.4	30.1	14.5	67.6
\$100,000 to \$199,999	23.5	27.6	23.7	68.3
\$200,000 to \$399,999	18.8	23.7	22.3	65.4
\$400,000 or more	14.0	27.2	18.8	73.6
Missing	0.0	NA	1.0	31.5
<b>Monthly nonpension household income</b>				
Less than \$1,000	15.5	23.7	9.8	68.8
\$1,000 to \$1,999	18.4	23.8	15.2	66.2
\$2,000 to \$2,999	18.3	25.3	16.8	66.9
\$3,000 to \$4,999	24.3	35.1	29.1	68.4
\$5,000 or more	23.3	30.7	28.8	71.0
<b>Spousal pension coverage in own name</b>		***		*
Yes	57.5	33.3	92.0	69.7
No	40.6	21.5	7.6	53.7
Missing	1.7	27.7	0.3	100.0
<b>Life insurance coverage</b>				
Yes	89.3	27.5	84.1	68.7
No	10.6	36.0	15.8	68.1
<b>Reports better health than spouse</b>				**
Yes	29.8	32.8	44.4	76.1
No	67.2	26.6	52.4	63.3
Missing	2.9	25.7	3.0	49.7
<b>Length of marriage, in years</b>				
0 to 14	11.9	35.1	9.4	69.5
15 to 29	20.9	25.2	10.4	71.9
30 to 34	24.6	28.6	15.2	58.9
35 to 39	26.3	28.5	30.8	67.7
40 or more	15.0	25.9	32.7	73.0
Missing	1.0	47.4	1.2	100.0

(continued)

**Table 1. (continued)**

	Men		Women	
	In Sample	Rejecting Joint and Survivor Annuity	In Sample	Rejecting Joint and Survivor Annuity
<b>Attendance at religious services</b>				
More than once a week	11.8	20.7	14.3	61.4
Once a week	23.7	29.0	30.9	75.5
2 to 3 times per month	14.4	33.8	13.9	77.1
About once a year	24.0	25.0	23.1	63.2
Never	23.9	32.1	14.7	61.8
Missing	1.8	25.5	2.8	67.6
<b>Enjoyment of time spent with spouse</b>				
Extremely Enjoyable	31.1	25.1	28.9	69.0
Very Enjoyable	49.7	28.9	53.8	66.2
Somewhat Enjoyable	10.7	35.3	13.9	75.2
Not Too Enjoyable	1.0	40.3	0.9	100.0
Missing	7.3	27.4	2.3	65.2
<b>Risk aversion</b>				
		*		
Not risk averse	17.2	34.8	15.4	64.5
Moderately risk averse	9.2	20.3	13.5	61.9
Very risk averse	65.9	27.6	67.8	70.8
Missing	7.5	30.8	3.1	69.8
<b>Union membership</b>				
Yes	41.4	26.1	31.6	66.3
No	58.5	30.1	68.3	69.6
<b>Race</b>				
		*		
White	88.8	27.6	87.2	68.2
African American	6.1	39.8	7.1	68.4
Hispanic	3.5	36.4	4.5	72.2
Other	1.4	12.3	1.0	88.0
<b>Educational attainment</b>				
Did not complete high school	16.8	33.7	10.9	74.0
High school graduate	34.7	26.6	40.2	68.8
Some college	20.5	31.0	20.6	71.2
College graduate	27.8	25.6	28.1	64.2

**Source:** Authors' estimates from the 1992–2000 waves of the Health and Retirement Study (HRS).

**Notes:** The sample consists of 763 men and 386 women born between 1931 and 1941 who were married and began receiving a life annuity from their former employers between 1992 and 2000. All financial measures are expressed in constant 2000 dollars. Pension benefits received from joint and survivor annuities are expressed as the amount that would be paid by an actuarially equivalent single life annuity. Estimates are weighted to account for the sampling design of the HRS.

\*\*\* significant at 1% level \*\* significant at 5% level \* significant at 10% level



**Table 2. Determinants of the Decision by Married Men to Forgo Spousal Survivor Protection**

Variables	Sample Means	Marginal Effects		
		(1)	(2)	(3)
<b>Value of monthly pension</b> (expressed as natural log)	7.048	-0.052*** (.016)	-0.054*** (.016)	-0.054** (.017)
<b>Household wealth</b> (expressed as natural log)	11.190	-0.016** (.007)	-0.012* (.007)	-0.012* (.007)
<b>Monthly nonpension household income</b> (\$10,000)	0.386	-0.001 (.035)	-0.006 (.036)	-0.001 (.038)
<b>Spousal pension coverage in own name</b>	0.573	0.145*** (.034)	0.132*** (.034)	0.131*** (.035)
<b>Reports better health than spouse</b>	0.313	0.064* (.037)	0.057 (.038)	0.052 (.038)
<b>Length of marriage, in years</b> (expressed as natural log)	3.282	...	-0.057** (.023)	-0.057** (.024)
<b>Reports not enjoying spending time with spouse</b>	0.125	...	0.079 (.054)	0.066 (.054)
<b>Attends religious services more than once per week</b>	0.123	...	-0.086* (.047)	-0.099* (.046)
<b>Not risk averse</b>	0.168	...	0.075 (.048)	0.072 (.048)
<b>Union membership</b>	0.423	...	...	-0.037 (.037)
<b>Race</b>				
African American	0.104	...	...	0.100* (.061)
Hispanic	0.051	...	...	0.035 (.082)
[Reference: White or other]	0.845	...	...	...
<b>Educational attainment</b>				
Did not complete high school	0.189	...	...	-0.009 (.048)
[Reference: High school grad]	0.358	...	...	...
Some college	0.199	...	...	-0.003 (.048)
College graduate	0.254	...	...	0.014 (.049)
<b>Log likelihood</b>		-446.5	-439.3	-437.5
<b>Pseudo R<sup>2</sup></b>		0.042	0.058	0.062

(continued)

**Source:** Authors' estimates from the 1992–2000 waves of the Health and Retirement Study (HRS).

**Notes:** Estimates are from a probit model, in which the dependent variable equals one if the respondent turns down a joint and survivor annuity, zero otherwise. Standard errors are in parentheses. The sample includes 763 married men born between 1931 and 1941 who began receiving a life annuity from their former employers between 1992 and 2000. The models also include missing variable indicators for spousal pension coverage, spousal health status, religious service attendance, and risk aversion, none of which were statistically significant. All dollar amounts are expressed in constant 2000 dollars. Sample means are not weighted.

\*\*\* significant at 1% level   \*\* significant at 5% level   \* significant at 10% level

**Table 3. Determinants of the Decision by Married Women to Forgo Survivor Protection**

Variables	Sample Means	Marginal Effects		
		(1)	(2)	(3)
<b>Value of monthly pension</b> (expressed as natural log)	6.290	-0.110*** (.026)	-0.111*** (.026)	-0.107*** (.030)
<b>Household wealth</b> (expressed as natural log)	11.449	0.006 (.011)	0.010 (.012)	0.010 (.012)
<b>Monthly nonpension household income</b> (\$10,000)	0.441	0.047 (.056)	0.051 (.057)	0.048 (.058)
<b>Spousal pension coverage in own name</b>	0.912	0.144 (.092)	0.154* (.094)	0.158* (.094)
<b>Reports better health than spouse</b>	0.444	0.107** (.048)	0.097* (.049)	0.103** (.050)
<b>Length of marriage, in years</b> (expressed as natural log)	3.428	...	0.014 (.042)	0.012 (.042)
<b>Reports not enjoying spending time with spouse</b>	0.176	...	0.132** (.057)	0.134** (.061)
<b>Attends religious services more than once per week</b>	0.163	...	-0.079 (.068)	-0.083* (.069)
<b>Not risk averse</b>	0.152	...	-0.023 (.071)	-0.025 (.071)
<b>Union membership</b>	0.323	...	...	0.019 (.054)
<b>Race</b>				
African American	0.137	...	...	-0.021 (.081)
Hispanic	0.054	...	...	0.011 (.113)
[Reference: White or other]	0.809	...	...	...
<b>Educational attainment</b>				
Did not complete high school	0.121	...	...	0.039 (.081)
[Reference: High school grad]	0.404	...	...	...
Some college	0.199	...	...	0.067 (.067)
College graduate	0.276	...	...	-0.014 (.069)
<b>Log likelihood</b>		-227.7	-224.3	-223.5
<b>Pseudo R<sup>2</sup></b>		0.063	0.078	0.081

(continued)

**Source:** Authors' estimates from the 1992–2000 waves of the Health and Retirement Study (HRS).

**Notes:** Estimates are from a probit model, in which the dependent variable equals one if the respondent turns down a joint and survivor annuity, zero otherwise. Standard errors are in parentheses. The sample includes 386 married women born between 1931 and 1941 who began receiving a life annuity from their former employers between 1992 and 2000. The models also include missing variable indicators for spousal pension coverage, spousal health status, religious service attendance, and risk aversion, none of which were statistically significant. All dollar amounts are expressed in constant 2000 dollars. Sample means are not weighted.

\*\*\* significant at 1% level   \*\* significant at 5% level   \* significant at 10% level

**Table 4. Cumulative Share of Married Annuitants Who Reject Survivor Protection and Whose Payout Decision Cannot Be Explained by Characteristics of the Couple**

	Men	Women
<b>Before accounting for potential explanations for rejecting survivor protection</b>	28.4%	68.6%
<b>After accounting for potential explanations for rejecting survivor protection:</b>		
<b>Spouse has access to other types of survivor protection</b>		
Spouse receives own pension	25.7	38.5
Spouse has adequate pension coverage	21.4	29.9
Couple is in the top quintile of the wealth distribution	17.9	21.8
Pensioner has adequate life insurance coverage	11.2	12.3
<b>Pension is worth less than \$250 per month</b>	10.7	8.8
<b>Couple's income is below 125% of the federal poverty level</b>	9.9	7.4
<b>Spouse is in worse health than pensioner</b>	6.5	2.6

**Source:** Authors' estimates from the 1992–2000 waves of the Health and Retirement Study (HRS).

**Notes:** The sample includes 763 married men and 386 married women born between 1931 and 1941 who began receiving a life annuity from their former employers between 1992 and 2000.

## **APPENDIX: Annuitization vs. Lump-Sum Distributions**

Before retirees choose between taking their pension benefits as a single life or a joint and survivor annuity, they must first decide whether to receive an annuity at all, or whether to receive their benefits as a lump-sum payment. This decision can have a substantial impact on economic well-being during retirement. Those who opt for lump-sum distributions run the risk of depleting their assets so they are left with no resources beyond Social Security, but they will be able to bequeath some of their pension wealth to their heirs if they die at relatively young ages. To better understand pension payouts, therefore, it is important to examine whether a retiree takes benefits in the form of an annuity or instead opts for a lump-sum distribution. In this section, we compute the share of retirees with DB pension coverage who choose a lump-sum distribution and examine the factors influencing their decisions.

### **Background**

Although the default payout option for defined benefit (DB) plans is an annuity, many retirees now have the option of taking a lump-sum distribution. In 1995, only about 15 percent of active DB participants in the private sector had the option of taking a lump-sum pension distribution at retirement (U.S. Bureau of Labor Statistics (BLS) 1998, table 113). This share increased to 43 percent in 2000, due in part to the growth of cash balance plans, a special type of DB plan that typically provides a lump-sum distribution option at retirement (BLS 2003, table 76). Because firms converting to cash balance plans typically grandfather older workers into their traditional DB plans, however, the availability of lump-sum distributions to new retirees has likely not increased as quickly as that for all workers.

In contrast to DB plans, defined contribution (DC) plans typically do not offer an annuity payout option at retirement. In 1997, only about a quarter of DC participants had the option of

taking their benefits in the form of annuities, whereas more than 90 percent had a lump-sum distribution option available at retirement (BLS 1999, tables 167 and 182). Those wishing to annuitize their benefits would have to use the proceeds from their lump-sum distributions to purchase an annuity in the private market, where adverse selection generally depresses the rate of return.

Numerous studies have examined lump-sum distributions from pension plans and have focused on whether individuals roll these distributions over to Individual Retirement Accounts (IRAs) or other tax qualified accounts.<sup>1</sup> These studies agree that most people who take lump-sum distributions do not roll them over into tax qualified accounts. However, the likelihood of rolling over a distribution increases with the size of the distribution, so that a larger share of dollars than accounts are rolled over. In 1996, for example, two-fifths of job changers rolled over their plan distributions to other tax qualified plans, but four-fifths of all dollars distributed were rolled over (Yakoboski 1997).

Although these studies provide valuable insights into what individuals do with their lump-sum distributions, few studies examine the decision between annuitizing or taking a lump sum. In addition, much of the literature focuses on decisions prior to retirement. Hurd, Lillard, and Panis (1998) provide one of the few analyses of pension distribution decisions among older workers who change jobs or retire. They use the Health and Retirement Study (HRS) to examine workers born between 1931 and 1941 who leave jobs between 1992 and 1996, when they were between ages 51 and 65. They find that 56 percent of adults leaving their jobs with pension assets either began collecting an annuity or planned to draw an annuity in the future. Fully 81 percent of those with DB pension dispositions annuitize their assets, compared with 3 percent of

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<sup>1</sup> See, for example, Burman, Coe, and Gale (1999); Moore and Muller (2001); Poterba, Venti, and Wise (1998); Sabelhaus and Weiner (1999); and Yakoboski (1997).

those in DC plans. However, about two-thirds of DC participants rolled their balances into IRAs or left their money in their plans to accumulate, and many of them might choose to annuitize at a future date. In fact, Brown (2001) reports that nearly half of adults ages 51 to 61 in DC plans expect to annuitize their plan assets sometime in the future.<sup>2</sup>

Our analysis uses HRS data through 2000, allowing us to examine the annuitization decision for those who leave jobs between 1992 and 2000. We focus our analysis specifically on those workers who are married and choose (or expect) to collect their DB pensions in the form of a lump-sum distribution. These individuals are of particular policy concern, because by failing to annuitize their pension wealth they forgo an opportunity to provide themselves (and their spouses) with a guaranteed source of retirement income.

## **Data and Methods**

We examine the decision to take a DB pension in the form of a lump-sum distribution instead of an annuity with a probit model, estimated for a sample of married adults leaving a job with DB pension coverage.<sup>3</sup> The model relates the annuitization decision to characteristics of the pensioner at the time of retirement. We estimate the model separately for men and women because factors that affect the annuitization decision likely differ by gender.

The data for our analysis come from the 1992 to 2000 waves of the HRS, described in the body of the report. Our sample includes married individuals born between 1931 and 1941 who

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<sup>2</sup> In a 2001 survey, LIMRA International, Inc., found that only 9 percent of recent retirees with pension coverage chose to annuitize their benefits (Albrycht, Drinkwater, and Sondergeld 2002). There are likely several explanations for this low annuitization rate compared to that using the HRS data. First, the LIMRA sample consists only of retirees with access to lump-sum distributions, thereby increasing the likelihood that a retiree had chosen a lump-sum distribution rather than an annuity. Second, the LIMRA data distinguish annuities from installment payments. In contrast, the HRS questions reference “receiving benefits,” which presumably could include both annuity payments and installment payments. Finally, whereas the HRS respondents can report that they expect to receive benefits in the future, the LIMRA data reflect only those currently receiving annuity benefits.

<sup>3</sup> We do not include retirees with DC coverage in our analysis because presumably few had the option of annuitizing their accounts directly through their employers.



reported leaving a job with a DB pension between 1992 and 2000.<sup>4</sup> Our final sample consists of 1,017 men and 583 women.<sup>5</sup> Note that because we could not distinguish retirees who had access to a lump-sum distribution from those who did not, our sample includes all retirees facing a DB pension distribution decision as opposed to only those with a lump-sum option.<sup>6</sup>

The dependent variable is a binary measure that identifies adults who forgo taking their pension in the form of an annuity. We set this variable equal to one if the respondent does not receive or expect to receive annuity payments. Possible forms of payout for those forgoing an annuity include receiving a cash settlement, rolling over the pension into an IRA, and expecting a lump-sum distribution at a later date. For ease of exposition, we characterize those choosing any of the three nonannuity options as choosing a lump-sum distribution. We base the measure on information collected at the time respondents reported leaving the job at which they had worked the longest.

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<sup>4</sup> The HRS questions that were used here to determine whether an individual opted for an annuity or a lump-sum distribution are different from those used in the body of the report to determine whether an annuitant chose a joint and survivor annuity. Therefore, although there is overlap between the samples used in the appendix and those used in the main report, there are some differences. (For instance, the sample in the main report includes everyone receiving an annuity, regardless of whether they had a DB or a DC pension. The appendix sample includes only those leaving jobs with DB pensions.)

<sup>5</sup> Many respondents are unwilling or unable to answer all of the detailed questions asked about their DB pension plans. Individuals who did not or could not explain what happened to their pension when they left their employer were dropped from the study. We dropped from our sample 59 individuals with missing information about how they received their pension benefits. In addition, we dropped 11 individuals because we did not have enough information to determine their pension wealth. (As described below, we imputed missing pension wealth using information on earnings and tenure, which was not available for these 11 individuals.)

<sup>6</sup> The HRS asks active workers with pension coverage whether they will have access to a lump-sum distribution when they leave their job. However, when asking retired workers whether they took a lump sum, the survey did not confirm whether a lump sum was available. There were many inconsistencies in individual responses regarding the availability of a lump-sum option and the receipt of a lump-sum payment. For instance, many active workers who initially reported that they would not have access to a lump sum when they left their job later reported taking a lump-sum distribution. Therefore, we lacked confidence in the credibility of the self-reported information on lump-sum availability. (See Gustman and Steinmeier (2001) for more detail regarding the accuracy of self-reported pension data.)

The covariates in the model consist of variables designed to capture the costs and benefits of taking an annuity, including both financial and nonfinancial factors. All financial information and demographic data used in the analysis of the pension payout decision were taken from the wave in which the retiree first reported leaving a job.

Financial variables in the model include measures of the size of pension wealth and the ratio of pension wealth to nonretirement financial wealth.<sup>7</sup> As pension wealth and the ratio of pension wealth to total wealth increases, the more important an annuity becomes in ensuring that retirees do not exhaust their non-Social Security resources. We expect, therefore, that retirees will be less likely to forgo an annuity as the value of pension wealth increases and as pension wealth represents a larger share of total nonretirement financial wealth.

The model also includes a number of other factors that are likely to play a role in whether the retiree opts for an annuity or a lump-sum distribution, including health status, attitudes toward risk, and financial planning horizon. Retirees who expect to live longer are more at risk of exhausting their assets, and would therefore benefit most from an annuity. To capture the impact of life expectancy on the decision to annuitize, we include measures of self-reported health status. Retirees who are more risk averse may be more likely to choose an annuity than those who are more willing to take risks, as are those who are more forward looking when making financial decisions. Therefore, we also include measures of risk aversion and the

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<sup>7</sup> Pension wealth is calculated as the lump-sum payment retirees would receive if they chose to forgo an annuity. This value reflects self-reported amounts for those who chose a cash settlement or a rollover option. For those choosing annuities, the value reflects the actuarial present value of future benefit payments, calculated based on the ages of the pensioner and the spouse. Benefit payments are based on self-reported information. Because the questions that we used to determine the type of pension disbursement were asked separately from questions related to whether the annuities are single life or joint and survivor annuities, we could not ascertain in all cases which option was chosen. Therefore, we made the simplifying assumption that all annuities were joint and survivor annuities, and calculate present values accordingly. For the 250 individuals who knew how their pensions were disbursed, but did not know the amount of either their lump-sum distribution or their annuity payment, we imputed pension wealth values using a hot-deck procedure based on earnings and tenure categories.

financial planning horizon. The model also controls for the age at which the pension distribution decision is made (which may reflect differences in health), race (which may reflect differences in health and wealth), and education (which may reflect differences in financial savvy or attitudes about risk). Because some of the variables we examine may be collinear, we report results from two different specifications of the model—a narrow specification that includes only pension wealth and the ratio of pension wealth to financial wealth, and a broad specification that includes the additional covariates.

## Results

Table A-1 reports the shares of married men and women retiring with DB pensions who reject annuitization in favor of a lump-sum distribution and how they differ by key retiree and spouse characteristics. The majority of DB recipients take their benefits in the form of annuities. Overall, only 13 percent of men and 19 percent of women take their benefits as lump-sum payments. The likelihood of opting for a lump-sum distribution is greatest for those with the lowest levels of pension wealth. Nearly two-thirds of men and three-quarters of women with pension wealth below \$10,000 choose lump-sum distributions.<sup>8</sup> Part of the reason for the low annuitization rates among these retirees may reflect some employers' decisions to offer annuities only to retirees with pensions valued above a certain threshold.

Retirees more likely to reject an employer-sponsored annuity in favor of a lump-sum distribution also include those whose pension wealth is small relative to their nonretirement financial wealth and those with a high school degree or some college education but not a college degree. White men, men who are not very risk averse, and women who are relatively young

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<sup>8</sup> Because retirees with greater pension wealth are more likely to annuitize, the share of total pension dollars annuitized exceeds the share of DB participants who annuitize. Overall, 85 percent of DB participants annuitize, compared with 89 percent of aggregate pension wealth.

when they leave their jobs and make their pension distribution decisions are also more likely to opt for lump-sum distributions. There is little apparent correlation between annuity take-up and other economic or demographic characteristics.

### ***Multivariate Estimates for Married Men***

Table A-2 reports the probit regression results for married men. Positive values indicate the increase in likelihood (in percentage points) of rejecting an annuity in favor of a lump-sum distribution; negative values indicate the decrease in likelihood of choosing a lump sum. The likelihood of choosing a lump sum decreases with the level of pension wealth. Men with pension wealth greater than \$200,000 are about 30 percentage points less likely to choose a lump sum than are those with wealth less than \$10,000. Even men with more moderate pension wealth levels are between 8 to 19 percentage points less likely to choose a lump sum than those with little pension wealth.

Men whose pension wealth is large relative to their household nonretirement financial wealth are less likely to take a lump sum. Those whose pension wealth is more than five times as much as their financial wealth are about 3 to 8 percentage points less likely to reject annuities in favor of a lump sum than those whose pension wealth is less than their financial wealth. Presumably, pension income is a more important source of retirement income for these households, and retirees value the protection that annuitized income provides against the risk of exhausting their assets.

Certain patterns in the demographic and behavioral predictors also emerge. Men who did not complete high school are nearly 5 percentage points less likely to take a lump sum than high school graduates, and African-American men are 7 percentage points less likely to take a lump sum than white men. This may be somewhat surprising, because those with limited education

might receive little information regarding the importance of annuities. On the other hand, it may be easier for workers to accept an annuity rather than deal with the financial complexities of managing a lump-sum distribution, especially since annuities are the default option for DB plans.

Men who are willing to take chances are about 5 percentage points more likely to take a lump sum than those who more risk averse. This result perhaps reflects their willingness to increase their current consumption possibilities even if it may increase the risk of becoming financially insecure at a later date.

### ***Multivariate Estimates for Married Women***

Table A-3 reports the probit regression results for married women. As with men, the likelihood of choosing a lump sum decreases with the level of pension wealth, and women with pension wealth greater than \$200,000 are about 25 percentage points more likely to annuitize than to take a lump sum compared to those with pension wealth less than \$10,000. Even women with more moderate pension wealth levels are about 15 to 24 percentage points more likely to annuitize than those with little pension wealth. In addition, women whose pension wealth is at least five times as great as their financial wealth are 7 to 10 percentage points more likely to annuitize.

In contrast to men, there are no significant differences among women in the likelihood of choosing a lump-sum distribution by education, race, or risk aversion. However, younger women are more likely to choose a lump sum than older women. Women who leave jobs and make their pension distribution decisions at ages 51 to 55 are 7 to 9 percentage points more likely to choose a lump sum than those ages 56 to 65. Perhaps women who leave jobs at younger ages are not retiring, but simply moving to another job.

## **Conclusions**

Most older married workers who leave jobs with DB pension coverage take their benefits in the form of an annuity. Few choose to take lump-sum distributions, perhaps due to the relative lack of availability of lump-sum distributions among DB participants, and those who do tend to have little pension wealth. Mandating annuitization as the default DB pension distribution option appears to have helped minimize the share of retirees forgoing annuitization.

In the past, however, relatively few workers with DB pensions have had the opportunity to take a lump-sum distribution. As DC plans continue to replace DB plans as employers' retirement plan of choice, and as DB plans increasingly provide retirees with the option of receiving their benefits in the form of a lump-sum distribution, more retirees will be confronted with the decision of whether to annuitize their pensions. The ramifications of this decision are long lasting. Those who forgo the opportunity to receive an annuity sacrifice a source of guaranteed income for themselves. Furthermore, by not electing a joint and survivor annuity they forgo the opportunity to provide income protection for their spouse. Increasing the share of retirees forgoing annuities raises the prospect of retired workers depleting their assets so that they have no resources beyond Social Security and higher poverty rates among widows. Extending the annuity default option rules to DC plans could help avoid this outcome.

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**Table A-1. Share of Married Retirees With DB Pensions Forgoing Annuitization in Favor of Lump-Sum Distributions, by Retiree Characteristics**

	Men		Women	
	In Sample	Rejecting Annuitization	In Sample	Rejecting Annuitization
All	100.0	12.8%	100.0	18.6%
Pension Wealth		***		***
<10,000	4.3	64.6%	10.8	72.8%
10,000<25,000	4.7	32.1%	13.5	25.1%
25,000<50,000	6.3	20.8%	14.8	17.6%
50,000<100,000	22.2	8.0%	29.5	10.4%
100,000<200,000	28.1	8.5%	18.8	6.2%
200,000+	34.5	9.0%	12.7	4.8%
Ratio of Pension Wealth to Non-Retirement Financial Wealth		***		***
No Financial Wealth	4.1	12.8%	3.6	26.3%
<1.00	18.1	23.9%	35.1	32.4%
1.00<5.00	31.5	14.5%	32.8	14.3%
5.00<20.00	24.5	5.6%	16.7	5.0%
20.00+	21.4	9.5%	11.1	5.3%
Missing Wealth	0.4	0.0%	0.8	27.0%
Household Income				
<25,000	11.5	15.5%	11.5	19.8%
25,000<50,000	22.8	11.6%	22.4	21.8%
50,000<75,000	25.9	10.3%	27.3	19.4%
75,000<100,000	15.3	11.2%	13.9	19.9%
100,000+	24.2	16.6%	24.3	13.2%
Missing	0.4	0.0%	0.8	27.0%
Household Wealth				
<50,000	19.3	12.1%	17.3	22.8%
50,000-100,000	14.4	13.7%	12.0	11.0%
100,000-200,000	23.9	12.9%	23.7	18.4%
200,000-400,000	23.3	9.8%	23.0	17.1%
400,000+	18.7	16.9%	23.2	21.0%
Missing	0.4	0.0%	0.8	27.0%
Self-Reported Health Status				
Excellent	18.9	11.2%	22.7	21.5%
Very good or good	60.6	13.5%	60.5	15.6%
Fair or poor	20.3	12.6%	16.8	25.6%
Missing	0.2	0.0%	0.0	na
Risk aversion level		**		
Not risk averse	19.3	17.9%	15.4	18.1%
Moderately risk averse	11.8	17.7%	13.1	22.0%
Very risk averse	62.6	10.7%	66.7	18.5%
Missing	6.4	9.3%	4.9	13.4%
Financial Planning Horizon				
Less than 1 year	9.8	11.1%	10.2	18.0%
1-5 years	42.1	12.9%	48.5	19.1%
5-10 years	30.8	13.1%	26.6	23.5%
10 or more years	10.3	15.7%	9.4	11.4%
Missing	7.0	9.3%	5.3	4.1%

(continued)

**Table A-1. (continued)**

	Men		Women		
	In Sample	Rejecting Annuitization	In Sample	Rejecting Annuitization	
Age At First Pension Receipt					**
51-55	12.0	15.0%	13.1	30.6%	
56-60	41.8	12.1%	42.0	20.8%	
61-65	38.7	12.6%	39.7	12.3%	
66+	7.6	14.7%	5.2	19.5%	
Race					***
White	88.5	13.8%	87.6	17.9%	
African American	6.4	5.1%	7.7	20.2%	
Hispanic	3.6	7.4%	3.2	17.6%	
Other	1.5	0.0%	1.6	55.4%	
Education					*      ***
Did not complete high school	17.5	8.9%	11.6	17.8%	
High school graduate	36.7	12.6%	37.9	24.6%	
Some college	18.2	18.5%	23.7	20.6%	
Four or more years of college	27.4	11.6%	25.6	9.2%	
Missing	0.2	54.4%	1.2	0.0%	

**Source:** Authors' estimates from the 1992-2000 waves of the Health and Retirement Study (HRS).

**Notes:** The sample consists of 1,017 married men and 583 married women born between 1931 and 1941 who reported leaving a job with a DB pension between 1992 and 2000.

Retirees who indicated that they are receiving or expect to receive annuity payments are classified as choosing an annuity. Retirees who indicated that they received a cash settlement, rolled over the pension into an IRA, or expect to receive a lump-sum distribution at a later date are classified as choosing a lump-sum distribution.

All variables refer to the pension recipient. Risk aversion, financial planning horizon, race and education are measured in 1992; all other variables are measured at the time of the pension distribution decision. All dollar amounts are expressed in constant 2000 dollars.

Estimates are weighted to account for the sampling design of the HRS.

\*\*\* significant at 1% level    \*\* significant at 5% level    \* significant at 10% level

**Table A-2. Determinants of the Decision by Married Men to Forgo Annuitization in Favor of Lump-Sum Distributions**

	Sample Means	(1)		(2)	
		Marginal Effect	Standard Error	Marginal Effect	Standard Error
<b>Pension Wealth</b>					
[reference: <10,000]	4.3	...	...	...	...
10,000<25,000	4.7	-0.087 ***	0.017	-0.079 ***	0.017
25,000<50,000	6.3	-0.109 ***	0.013	-0.100 ***	0.013
50,000<100,000	22.2	-0.141 ***	0.016	-0.132 ***	0.015
100,000<200,000	28.1	-0.188 ***	0.021	-0.177 ***	0.021
200,000+	34.5	-0.289 ***	0.045	-0.299 ***	0.047
<b>Ratio of Pension Wealth to Financial Wealth</b>					
[reference: <1.00]	18.1	...	...	...	...
1.00<5.00	31.5	0.001	0.027	0.013	0.027
5.00<20.00	24.5	-0.076 ***	0.023	-0.065 **	0.023
20.00+	21.4	-0.052 *	0.025	-0.027	0.027
No Financial Wealth	4.1	-0.059	0.028	-0.032	0.038
<b>Self-Reported Health Status</b>					
[reference: Excellent]	18.9	...	...	...	...
Very good or good	60.6	...	...	0.033	0.024
Fair or poor	20.3	...	...	0.015	0.034
Not risk averse	19.3	...	...	0.047 *	0.028
Short financial planning horizon	51.9	...	...	-0.014	0.024
<b>Age At Pension Distribution Decision</b>					
[reference: 51-55]	12.0	...	...	...	...
56-60	41.8	...	...	0.000	0.030
61-65	38.7	...	...	-0.065	0.023
66+	7.6	...	...	-0.009	0.040
<b>Race</b>					
[Reference: white or other]	90.0	...	...	...	...
African American	6.4	...	...	-0.070 **	0.020
Hispanic	3.6	...	...	-0.048	0.032
<b>Education</b>					
Did not complete high school	17.5	...	...	-0.046 *	0.022
[reference: HS graduate]	36.7	...	...	...	...
Some college	18.2	...	...	0.044	0.030
Four or more years of college	27.4	...	...	-0.013	0.024
Log likelihood		-322.946		-308.764	
Pseudo R <sup>2</sup>		0.156		0.193	

**Source:** Authors' estimates from the 1992-2000 waves of the Health and Retirement Study (HRS).

**Notes:** Parameters are based on a probit model, estimated on a sample of 1,017 married men born between 1931 and 1941 who reported leaving a job with a DB pension between 1992 and 2000.

Retirees who indicated that they are receiving or expect to receive annuity payments are classified as choosing an annuity. Retirees who indicated that they received a cash settlement, rolled over the pension into an IRA, or expect to receive a lump-sum distribution at a later date are classified as choosing a lump-sum distribution.

All variables refer to the pension recipient. Risk aversion, financial planning horizon, race and education are measured in 1992; all other variables are measured at the time of the pension distribution decision. All dollar amounts are expressed in constant 2000 dollars. The model also controlled for whether pension wealth was imputed, whether risk aversion data was missing, whether financial planning horizon data was missing, and whether education data was missing.

\*\*\* significant at 1% level    \*\* significant at 5% level    \* significant at 10% level

**Table A-3. Determinants of the Decision by Married Women to Forgo Annuitization in Favor of Lump-Sum Distributions**

	Sample Means	(1)		(2)	
		Marginal Effect	Standard Error	Marginal Effect	Standard Error
<b>Pension Wealth</b>					
[reference: <10,000]	10.8	...	...	...	...
10,000<25,000	13.5	-0.164 ***	0.023	-0.152 ***	0.024
25,000<50,000	14.8	-0.179 ***	0.023	-0.171 ***	0.024
50,000<100,000	29.5	-0.196 ***	0.026	-0.190 ***	0.027
100,000<200,000	18.8	-0.243 ***	0.029	-0.232 ***	0.031
200,000+	12.7	-0.256 ***	0.030	-0.249 ***	0.033
<b>Ratio of Pension Wealth to Financial Wealth</b>					
[reference: <1.00]	35.1	...	...	...	...
1.00<5.00	32.8	-0.014	0.036	-0.008	0.036
5.00<20.00	16.7	-0.071	0.037	-0.076 *	0.035
20.00+	11.1	-0.097 **	0.033	-0.102 **	0.031
No Financial Wealth	3.6	-0.022	0.059	-0.039	0.054
<b>Self-Reported Health Status</b>					
[reference: Excellent]	22.7	...	...	...	...
Very good or good	60.5	...	...	-0.063	0.040
Fair or poor	16.8	...	...	-0.066	0.036
Not risk averse	15.4	...	...	0.019	0.041
Short financial planning horizon	58.7	...	...	0.007	0.036
<b>Age At Pension Distribution Decision</b>					
[reference: 51-55]	13.1	...	...	...	...
56-60	42.0	...	...	-0.069 *	0.039
61-65	39.7	...	...	-0.093 **	0.039
66+	5.2	...	...	-0.055	0.048
<b>Race</b>					
[Reference: white or other]	89.1	...	...	...	...
Black	7.7	...	...	0.073	0.059
Hispanic	3.2	...	...	0.117	0.115
<b>Education</b>					
Did not complete high school	11.6	...	...	-0.061	0.034
[reference: High school graduate]	37.9	...	...	...	...
Some college	23.7	...	...	-0.005	0.037
Four or more years of college	25.6	...	...	-0.058	0.034
Log likelihood		-198.408		-185.230	
Pseudo R <sup>2</sup>		0.278		0.323	

**Source:** Authors' estimates from the 1992-2000 waves of the Health and Retirement Study (HRS).

**Notes:** Parameters are based on a probit model, estimated on a sample of 583 married women born between 1931 and 1941 who reported leaving a job with a DB pension between 1992 and 2000.

Retirees who indicated that they are receiving or expect to receive annuity payments are classified as choosing an annuity. Retirees who indicated that they received a cash settlement, rolled over the pension into an IRA, or expect to receive a lump-sum distribution at a later date are classified as choosing a lump-sum distribution.

All variables refer to the pension recipient. Risk aversion, financial planning horizon, race and education are measured in 1992; all other variables are measured at the time of the pension distribution decision. All dollar amounts are expressed in constant 2000 dollars. The model also controlled for whether pension wealth was imputed, whether risk aversion data was missing, whether financial planning horizon data was missing, and whether education data was missing.

\*\*\* significant at 1% level    \*\* significant at 5% level    \* significant at 10% level