
Research Grant Summaries

Section 1110 of the Social Security Act provides for a cooperative research grants program. Under this program, the grants are given by the Social Security Administration to nonprofit organizations for research in the broad area of Social Security. To provide readers with an overview of the purpose and findings of the research conducted under this program, the Executive Summary from completed research reports will be published in the **Bulletin**. Two summaries from recent projects are reprinted below.

The Joint Retirement Decision of Husbands and Wives

by Michael Hurd*
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The same kinds of factors that cause husbands and wives to coordinate their work effort at younger ages should cause them to coordinate their retirement choices. The coordination could lead to specialization in which one of the spouses works on the job and the other works at home; their retirement dates would be very different. Alternatively, the coordination could lead them to retire at about the same time because the pleasure of each spouse from retirement years is enhanced by the retirement of the other; that is, their retirement years are complementary. Theoretical considerations cannot say which tendency dominates, and, in fact, in a heterogeneous population probably both decisions are found.

The objective of the research reported here is to find empirically whether or not husbands and wives tend to retire at the same time and, if they do, to give some indication of the explanation. One kind of

explanation is assortative mating: If men who enjoy working marry women who also enjoy working, one would observe a positive correlation between retirement dates. For example, a man who enjoys working will retire later than average; he will tend to be married to a woman who likes to work, and she would retire later than average. This explanation differs from the kind of explanation of retirement coordination that is based on complementarity of retirement years because a change in the environment that causes one spouse to retire earlier would not necessarily have any effect on the retirement of the other.

Economic variables may induce coordination of retirement. For example, if a couple has substantial assets, both the husband and wife may retire early. Another example would come from the Social Security system: If the wife's Social Security benefit is based on the husband's earnings record, she may retire when the husband retires so that she can draw benefits. In this case, some policies that cause the husband to retire would also cause the wife to retire.

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As mentioned above, husbands and wives will coordinate retirement if the retirement years of one spouse complement the retirement years of the other. Even if the retirement decisions of individuals do not respond to economic incentives, husbands and wives would tend to retire at the same time.

Data

Two subsamples from the Social Security Administration's 1982 New Beneficiary Survey (NBS) are used to investigate the joint retirement decision. The first subsample is from the male retired-worker sample, a sample of men who were entitled to Social Security retired-worker benefits on their own earnings record and who drew their initial retired-worker benefits in the period June 1980 through May 1981. Data on husbands and their wives were extracted to form a "male-worker sample." The second subsample is from the female retired-worker sample, a similar sample except that the women were

entitled on their own earnings record. An extract on husbands and wives produced a "female-worker sample."

Defining retirement is always difficult: No universally accepted definition exists among researchers. Here, retirement is defined as not employed. In that respondents were at least age 63 by the time of the survey, and they had received initial Social Security benefits, the incidence of reemployment is probably low.

Data Analysis

To find whether or not husbands and wives tend to retire at the same time, the difference between the retirement date of the husband and the retirement date of the wife was calculated. This variable has a very wide range, almost 50 years. There is practically no concentration at any value except at 1 year or less. Table 1 shows the fraction of couples retiring within 1 year, 2 months, 1 month, and in the same month—all classified by the retirement age of the respondent. In

the male-worker sample, the respondent is the husband; in the female-worker sample, the respondent is the wife. The table shows substantial concentration of the difference in retirement dates—that is, large numbers of husbands and wives tend to retire at approximately the same time. For example, in the male-worker sample, 190 husbands retired at age 62. Of these men, 5.8 percent retired in the same month as their wives; 6.3 percent retired within 1 month (but not in the same month) as their wives; and fully 23.6 percent retired within the same year. Similar concentrations are found among husbands that retired in the other age interval groups. In the female-worker sample, the fraction of husbands retiring within 1 year of their wife's retirement is even higher than for the male-worker sample.

These results certainly support the joint retirement hypothesis—the view that husbands and wives coordinate their retirements to retire at the same time. They offer good evidence against assortative mating

Table 1.—Distribution of the difference in retirement dates, by sex and age¹

Difference in retirement dates	Total	55-59	60-61	62	63-64	65	66 or older
	Husband's retirement age ²						
Total number observed..	1,548	78	142	190	397	355	386
Same month.....	6.1	9.0	12.0	5.8	5.8	4.2	5.4
1 month.....	9.4	9.0	14.8	6.3	10.5	7.1	8.5
2 months.....	11.0	9.0	15.5	9.5	12.1	9.9	10.1
Same year.....	24.6	19.2	32.4	23.6	26.7	25.3	20.5
More than 1 year.....	75.4	80.8	67.6	76.4	73.3	74.4	79.5
	Wife's retirement age ³						
Total number observed..	901	157	132	115	173	165	159
Same month.....	8.5	8.9	6.1	10.4	8.1	6.1	11.9
1 month.....	11.5	11.5	10.6	14.0	11.0	8.5	14.5
2 months.....	13.8	12.7	12.9	14.8	13.3	10.9	16.4
Same year.....	28.1	28.0	27.2	33.0	28.3	25.4	27.7
More than 1 year.....	71.9	72.7	72.8	67.0	71.7	74.6	72.3

¹Entries are percent of each column.

²Based on male-worker sample.

³Based on female-worker sample.

Source: Author's calculations are from the data in the 1982 New Beneficiary Survey.

as causing an apparent coordination in the data. With assortative mating, there may be some tendency toward concentration, but one would not expect such a large number of individuals to retire within just several months of each other.

In table 1, the distribution is given by the retirement age of the respondent in the hope that variations in the distribution by retirement age would reveal something about the cause of the coordination. For example, if the coordination is induced by eligibility for Social Security, one would expect that the distribution would be different at age 62 than at ages 63 and 64, and different again at age 65. It is, however, difficult to find any pattern that is consistent across data sets. The table implies that a substantial fraction of the coordination is the result of complementarity.

A number of other kind of data analysis supported the joint retirement hypothesis. The probability that the spouse retired at a given age was calculated holding constant the retirement age of the respondent and the age difference. The results imply that, in general,

larger fractions of spouses retire at ages when they will retire at the same time as the respondent than at ages when they will retire at different times. Consider, for example, couples in which the wife retires at age 62. If the husband and wife are the same age, 33 percent of the husbands retire at age 62; but if the husband is 1 year older than the wife, only 7 percent retire at age 62. This situation may be compared with that of couples in which the wife retires at ages 60-61. If the husband and wife are the same age, just 9 percent of the husbands retire at age 62; but, if the husband is 1 year older than the wife, 25 percent retire at age 62. In all these cases, retirement ages are chosen by the couple in such a way as to increase the fraction of couples retiring at the same time.

An increase in the age difference (the husband's age minus the wife's age) shifts the distribution of the retirement age of the husband to later retirement ages, holding constant the retirement age of the wife. For example, among wives who retire at ages 60-61, the probability that the husband retires by age 62 decreases by 0.057 for

each year of age difference. This factor tends to increase the likelihood that the husband and wife will retire at the same time.

A good summary of the data from this kind of analysis is given in table 2. It shows the distribution of the difference in retirement ages by the difference in age. For example, among husbands and wives of the same age, 25.8 percent had retirement ages that were the same; among couples in which the husband was 1 year older than the wife, the retirement age of 28.0 percent of the husbands was 1 year greater than the retirement age of the wife. These couples retired at approximately the same time. The joint retirement hypothesis is supported when the largest entry in a column is the diagonal element. This entry is found in all the columns.

Economic Models of Retirement

The results from the data analysis verify the joint retirement hypothesis, but they cannot say how much of the coordination of retirement is caused by economic variables, by tastes or by

Table 2.—Percentage distribution of the difference in retirement age¹

Difference in retirement age ²	Total ³	Difference in age ⁴									
		-4 to -2	-1	0	1	2	3	4	5	6-10	
Total percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total number observed.....	1,519	151	104	163	207	209	194	137	109	245	
-6 to -2.....	14.8	43.1	17.3	15.3	10.6	12.0	10.8	5.8	14.7	10.2	
-1.....	7.1	9.3	24.0	9.8	5.8	1.4	2.6	6.6	6.4	6.9	
0.....	10.4	10.6	15.4	25.8	14.0	7.7	6.2	7.3	2.8	5.7	
1.....	11.7	6.6	10.6	11.7	28.0	18.7	5.7	5.1	5.5	6.5	
2.....	10.3	4.0	4.8	9.8	10.1	23.0	14.4	9.5	6.4	5.3	
3.....	10.7	11.3	5.8	6.8	6.8	12.0	23.2	14.6	10.1	5.7	
4.....	9.0	5.3	1.9	4.9	5.3	6.7	10.3	29.9	14.7	6.5	
5-6.....	13.1	4.6	11.5	9.2	9.7	10.1	12.4	11.7	26.6	22.5	
7-9.....	12.9	5.3	8.7	6.8	9.7	8.6	14.4	9.5	12.8	30.6	

¹Entries are percent of each column.

²Difference in retirement age is husband's retirement age minus wife's retirement age.

³Based on combined male- and female-worker samples.

⁴Difference in age is husband's age minus wife's age.

Source: Author's calculations are from the data in the 1982 New Beneficiary Survey.

complementarity in years of retirement. To separate these causes requires the use of economic models.

Models of Retirement Age

The first group of models allows the age at retirement to depend on economic and other variables and on the age difference. The empirical results from the estimation suggest that variation in economic variables cannot cause much coordination of retirement; the magnitudes of the effects are simply too weak, and, in some cases, cause the spouses to retire at different times. Age difference, however, remains important: Increasing the age difference increases the husband's worklife and decreases the wife's worklife, implying that they tend to retire at the same time. For example, increasing the age difference by 1 year increases the husband's retirement age by 0.25 year and decreases the wife's retirement age by 0.27 year (average across both data sets). Thus couples adjust the difference in their retirement ages by about half the age difference. Another important explanatory variable is the retirement age of the spouse. Holding constant all the economic variables (own and spouse earnings, entitlement to Social Security and private pensions, and assets), own and spouse's health status, and the age difference, one finds that an increase of 1 year in the husband's retirement age increases the wife's retirement age by 0.37 year; increasing the wife's retirement age by 1 year increases the husband's retirement age by 0.25 year.

Models of Probability of Retirement

In another kind of model, the object of estimation is the probability of retirement. A natural

question is whether or not the probability of retirement depends on the retirement status of the spouse. The joint retirement hypothesis implies that if one spouse has retired, the probability that the other will retire increases. Equations explaining the probability that each spouse was retired at the time of the interview were estimated separately over each data set. In all cases, the joint retirement hypothesis was strongly supported. For example, if at the time of the interview the wife had retired, the probability the husband had retired was about 0.20 higher than if the wife had not retired. These calculations hold constant the economic and health variables. If the husband had retired, the probability that the wife had retired was about 0.21 higher than if the husband had not retired.

A second type of probability model is concerned with the conditional probability of retirement—the probability that someone will retire at a particular age given that he has not already retired. Separate conditional probability equations for the wife were estimated over both data sets for each of the ages 60-61, 62, 63-64, 65, and 66 or older. The explanatory variables were economic variables, health status and, of particular interest, the husband's retirement status.

A total of 10 equations was estimated (5 ages and 2 data sets), and in all 10 cases the husband's retirement increased the probability that the wife will retire. The magnitude of the implied effect is substantial. For example, suppose that the wives who are working on their sixtieth birthday are divided into two groups according to the retirement status of their husbands and that the retirement status of the husbands remains constant until the

wives are age 66. What is the difference in the labor-force participation rates of the two groups when the wives attain age 66? The estimates of the conditional probability model imply that the wives whose husbands have retired will have a participation rate that is about two-thirds the rate of the wives whose husbands have not retired.

Conclusion

Simple data analysis, economic models of the age of retirement, and economic models of the probability of retirement all point to coordination of retirement dates: Husbands and wives seem to want to retire at about the same time. According to the results, very little of the coordination is due to the economic variables, and simple cross-tabulations rule out assortative mating as an important explanation. Apparently, the enjoyment of retirement years is enhanced by the retirement of the spouse. This finding is quite symmetric, which adds to its credibility: The response of the wife to either the age difference or to the retirement of the husband is quite similar to the response of the husband to either the age difference or the retirement status of the wife.

Because of data limitations, the modeling of the economic environment could be only approximate. Future research should aim for greater accuracy in the modeling to make the quantification of the effects more precise. It seems quite well established, however, that the decision of one spouse affects the decision of the other. That finding will need to be taken into account in future research.

Determinants of Retirement by Married Women

by Robert Clark
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Until recently, relatively few married women devoted most of their time to market work. Instead, wives tended to have periods of market work woven around other family events. These women were likely to have entered the labor market earlier in their lives and then withdrawn to devote full time to work in the home and perhaps to raise a family. Many women reentered the labor force as their children entered high school or left home. Often after a few years of additional market work, these women left the labor force in their late forties or early fifties.

For women with such a traditional history of market work, their own retirements are not specific life events. Instead, they enter the retirement years by continuing their roles as homemakers. The change in the household time allocation in later years is caused by retirement of the husband. Dramatic increases in the labor-force participation rates of married women and the greater career orientation of younger women have reversed this traditional pattern of female market worklife. The current cohort of women just entering the retirement years may be the last to have experienced this traditional work history.

The changing patterns of work among women imply that future cohorts of women reaching retirement will have greater labor-

market experience, and be more likely to have employer pension coverage, higher earnings, and Social Security retired-worker benefits. These women will continue to work in the market until their late fifties or into their sixties. For them, retirement will be an important life event. Retirement decisions for families in which husbands and wives work in the labor market for most of their lives are more complex than those for single-worker households. Members must consider their own personal and economic characteristics as well as those of their spouses. The trend toward dual-career households underlies the importance of understanding the interrelationships of spouses' retirement decisions.

In an earlier study for the Social Security Administration, retirement in dual-career families in the Retirement History Study (RHS) was examined.¹ The findings indicated that both the husband and the wife considered the retirement decision of the spouse in deciding whether or not to leave the labor force. Economic variables such as a person's own wage, pension wealth, and Social Security wealth were important determinants of retirement. However, spouse's wage, pension wealth, and Social Security wealth also affected an individual's decision to leave the labor force. In addition, the husband's health influenced the retirement decisions of both the husband and the wife.

The objective of this project has been to continue our investigation of retirement in dual-career households using the Social Security Administration's 1982 New

Beneficiary Survey (NBS). The NBS is composed of a series of samples of persons who first received Social Security benefits in 1980 and 1981. The samples reflect individuals who are receiving various types of Social Security benefits: retired-worker, widow, and spouse benefits. Five working samples were constructed for analysis. They include three samples of married women: households sampled as retired male workers, households sampled as retired female workers, and households sampled as wife beneficiaries. The other two samples consist of households headed by single women: never-married women sampled as retired workers and widowed and divorced women.

While the NBS contains considerable economic and personal information about beneficiaries in the sample, a significant shortcoming of the NBS for examining retirement decisions is that it is limited to individuals who have already started the retirement process by beginning to receive Social Security benefits. To examine retirement decisions, one would like to have a representative sample of persons entering the retirement years—some retired, some continuing to work—similar to the RHS. Despite this shortcoming, we have been able to investigate patterns of retirement among single- and dual-career households.

Our method of analysis was to describe carefully the demographic and economic characteristics of each of the samples of married women and to contrast these data to information for single women. The sample selection methodology suggested that the samples should be analyzed separately and the considerable differences in the samples support this decision. The demographic and economic

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¹See Robert Clark, Thomas Johnson, and Ann A. McDermid, "Allocation of Time by Married Couples Approaching Retirement," *Social Security Bulletin*, April 1980, pages 3-16.

information for each sample suggests that the employment history of the wife is an important determinant of family well-being in old age. Among the married women, those in the female retired-worker sample exhibit the greatest attachment to the labor force. They retire later and more than half the total wealth of these households is in the form of pensions and Social Security. More than 50 percent of the wives in the female retired-worker sample continued to work after their husbands retired, whereas 68 percent of the wives in the other samples retired before their husbands.

The samples of married women were divided into households in which both spouses worked after age 55 and those in which at least one did not. This sorting was done to allow us to distinguish between households in which retirement was an actual decision for both spouses and households that had only one worker at the end of the working years. The primary demographic difference between these two types of households is the incidence of health problems among the wives. Women in the single-career households are much more likely to have a health problem that limits work activities. As expected, women in the dual-career families have greater total labor-market experience, more job tenure on their longest and last jobs, and they retire much later. Women in the dual-career households have much higher pension coverage rates and are much more likely to have earned retired-worker Social Security benefits.

In 50 percent or more of the dual-career households, husbands and wives retire within 1 year of each other, while in the single-career families, only 10 percent of the

couples retire together. Most of the wives in the single-career households retired many years before their husbands; 78 percent of the women in the male retired-worker sample and 66 percent of the women in the wife beneficiary sample of single-career families retired 5 years or more before their husbands.

Responses to questions concerning the reasons for retiring indicate that retirement decisions may be ordered and not simultaneous in dual-career households. Twenty percent or more of the women in each of the samples indicated that the retirement of their husbands was one of the reasons they retired. In the wife beneficiary sample, more than 30 percent of the women indicated that their husband's retirement was a factor in their own retirement, with 13 percent of this sample indicating that their spouse's retirement was the most important reason for their own retirement. Virtually no husband indicated that the most important reason for his retirement was the retirement of his spouse. Together these responses suggest that family retirement decisions may be ordered so that the husband decides when he will retire and then the wife decides on her retirement.

The data analysis of the NBS also provided evidence on the timing of work cessation and the receipt of Social Security benefits. About 40 percent of wives in dual-career households in the retired-

worker samples begin receiving Social Security payments the same year they stop all work and another 40 percent begin benefit receipt 2 years after they stop all work. From 45 percent to 48 percent of their husbands begin receiving their Social Security payments the same year that work is stopped and from 21 percent to 29 percent wait 2 years after leaving the labor force to receive benefits. In the female retired-worker sample, 26 percent of the husbands continue working after they start receiving Social Security payments. Sixty percent of the women in the dual-career households sampled as wife beneficiaries stop all work about 3 years before they begin receiving Social Security benefits. More than 50 percent of wives in dual-career households begin receiving Social Security benefits after their husbands.

A probit analysis of simultaneous retirement from a full-time job for husbands and wives in dual-career households indicates that the factors influencing husbands and wives decisions to retire within 1 year of each other are their age differences, health, the wife's work history, and work-related wealth. In the male retired-worker sample, a 1-year increase in the wife's age increases the probability that the couple will retire together by 2 percentage points, while a 1-year decrease in the age of the husband increases the probability of retiring together by 3 percentage points. The health variables of the wives in

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this sample have significant and interesting effects on the probability of simultaneous retirement. A health problem that limits the wife's ability to work increases the probability that the couple will retire together; a limitation that restricts house work reduces the likelihood that they will retire together.

Economic variables associated with past work activities of the women are important factors in the joint retirement process. Pension coverage increases the probability of simultaneous retirement, whereas higher Social Security wealth of the wife reduces the probability of simultaneous retirement. Increases in the husband's wage and his Social Security wealth also increase the prospects for retiring together. The effects of these variables are related to the age differences of the spouses, the relationship of these variables to past work activity, and the link between past employment and the probability of working today. Similar effects are found for couples in the female retired-worker sample.

Findings from the analysis of cessation from all work are similar to those just described for retirement from a full-time job. Because of age and eligibility restrictions associated with Social Security benefits, results for the likelihood of husbands and wives in dual-career households beginning Social Security benefit receipt within 1 year of each other are somewhat different. If the wife's retired-worker benefit exceeds her spouse benefit, the probability that the couple will begin benefit receipt within 1 year of each other is reduced by 11 percentage points. Pension coverage and Social Security wealth are also important to this event.

Statistical tests indicate that in dual-career households wives who work after their husbands retire are significantly different from those

who retire before their husbands. Therefore, tobit functions for the number of months that wives retire before their husbands and the number of months that wives retire after their husbands were estimated separately. In these analyses, age, health, and the work-related variables are important determinants of the length of time wives retire before and after their husbands. The length of time that wives retire before their husbands depends on his health and work history, whereas the length of time they retire after depends on their own work history and health.

Finally, the amount of time that wives spend in the labor force after age 55 depends on the age of their husbands, whether or not they are working at the time, and the number of years married. If they have older husbands or working husbands, they work fewer months after age 55. If the husband does work, the longer he works during this time, the longer the wife works. Women who have been married longer also work more months after age 55.

The empirical analysis of retirement in dual-career households provides several interesting results. First, in attempting to understand the relative timing of retirement between husbands and wives, demographic characteristics play an obvious role. The relative age and health status of spouses are typically important in the timing of retirement. Second, economic variables are also important. Women who have spent many years in the labor force will have higher wages and pension wealth. They will be more likely to have pensions and retired-worker Social Security benefits that exceed their spouse benefits. To a certain extent, these variables are proxies

for the career orientation of these women. This means they will tend to retire later and this retirement typically will be closer to the retirement years of their husbands. Greater pension wealth and Social Security wealth for husbands typically corresponds to earlier retirement for them, which also increases the likelihood of simultaneous retirement. Finally, households differ significantly in the prospects for simultaneous retirement because of the wife's employment history. This difference indicates that decisions made much earlier in life also have an important effect on the retirement decisions of households.

These findings provide interesting new information concerning household retirement decisions. They confirm our earlier conclusions based on the RHS sample that retirement in dual-career households is a household decision. Members consider their own personal and economic characteristics as well as those of their spouses and, in so doing, the timing of retirement is jointly determined. In the NBS sample, there is some evidence to suggest that the retirement process is ordered; husbands decide when to retire and wives make their decisions conditional on their husbands' decisions. The issue of household retirement decisions merits further research because dual-career households will become increasingly more important in the future. A new longitudinal retirement history survey would advance further study of this issue.