

**THE SURVEY OF INCOME AND  
PROGRAM PARTICIPATION**

**CHILDCARE EFFECTS ON SOCIAL  
SECURITY BENEFITS (91 ARC)**

**No. 135**

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The views expressed are the author's and do not represent the position of the Office of Research and Statistics or the Social Security Administration.

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## INTRODUCTION

On Mother's Day, 1990, the older Women's League (OWL) distributed a report critical of the state of older women's economic security, a system designed primarily to respond to work patterns of men and the shrinking number of stay-at-home wives with intact marriages. The OWL report indicts pension systems in general and Social Security in particular for failing to keep pace with social changes in labor force participation and family responsibility. One factor that reduces women's retired worker benefits is that women are the primary caregivers of children, the elderly, and the disabled, leading to time out of the labor force while caring for family members. Time out of the labor force can reduce substantially the size of the caregiver's resultant social security and pension benefits in old age. At the end of 1988, the basic retirement benefit newly awarded to women was 59 percent of that of men (Social Security Administration 1989, Table 6.A.2). But many women do not earn social security retired-worker benefits greater than they can receive as a wife or widow. Approximately three-fifths of older beneficiary women receive social security benefits based on their auxiliary status as wives or widows (Ling 1990).

Gwendolyn King--the Commissioner of the Social Security Administration (SSA)--has created a women's issues task force to recommend steps to respond to equity and adequacy concerns such as those in the OWL report. One option that has been proposed by advocacy groups is providing caregiving dropout years that would allow future retirees to drop some years from the benefit calculation that were spent giving care to family members.

For analytic purposes, this paper examines the effects of a plan aimed at improving benefits for persons retiring after 1991 who had no earnings during years spent giving care for family members. This paper assesses what types of women are affected by dropout years. It also estimates the effect that dropout years would have on the size of women's benefits and, for married women, the likelihood that they will collect a larger wife or widow benefit than their own worker benefit. Because of data and time constraints, this analysis is only the beginning of analysis of the effect caregiving and dropout years could have on women's benefits.

### Data source

This analysis is based on data from the 1984 Survey of Income and Program Participation (SIPP), a nationally representative survey containing a full range of socioeconomic variables and, in addition, historical information on labor force participation, a fertility history with birth dates of first and last children, and expectations of having additional children. 1/

Sample persons were first interviewed in late 1983 and then reinterviewed quarterly for 2 ½ years until mid-1986. These data have been linked with official SSA Summary Earnings Records (SER), containing yearly covered earnings beginning in 1951 and through 1986. About 95 percent of adults in SIPP had valid social security numbers which could be matched to SSA records. This paper analyzes SIPP sample members who have a matchable SER. The SIPP data are publicly available, but the linked file with social security SER record data is tightly restricted

by tax and privacy legislation to use by Census Bureau and SSA employees who are special sworn agents of the Bureau of the Census. This specially produced file makes it possible to associate years in which caregiving was provided with amounts of covered earnings, and to estimate benefits based on different scenarios.

### The benefit calculation

In the fully mature social security benefit system--in effect the system which serves persons born after 1928--persons must be aged 62 and have at least 40 quarters of covered earnings to be eligible to receive retired-worker benefits. The benefit formula is based on 35 years of earnings from age 22, or 1951, whichever is later, up to age 62, after allowing the 5 years of lowest earnings to be dropped. Any years of higher earnings before age 22 or after age 61 may be substituted for earnings from ages 22-61. The earnings are wage indexed to equalize effects of changing wage levels over time, and an average indexed wage is calculated. A Primary Insurance Amount (PIA) is derived from Average Monthly Indexed Earnings (AIME) on which the final benefit is based. Those who have more than 5 years of low earnings or no earnings out of their highest 40 years because of caregiving (or any other reason) will have these low or zero earnings amounts averaged into the final earnings used to calculate benefits.

A spouse may receive a social security benefit of up to one-half of the worker's benefit if s/he has not worked or has not worked long enough to become insured on the basis of his/her own earnings. When a spouse is also entitled to a worker benefit and the spouse benefit is larger, the spouse is "dually entitled" and receives an amount equal to the larger spouse benefit amount. A widow(er) receives a benefit equal to the full deceased spouse's benefit amount if s/he has not worked long enough to become insured. The widow(er) is dually entitled if his/her retired-worker benefit is less than that of the decedant spouse's benefit amount. Women are the primary recipients of auxiliary benefits.

### The sample for analysis

One approach might be to provide caregiving dropout years to new retirees after 1991, i.e. those born in 1930 or later. Persons born in 1930 were aged 22 in 1952 and aged 56 in 1986.<sup>2/</sup> Persons born as late as 1949 were included in part to have an adequate sample to analyze and in part to include some of the later cohorts of women who were much more likely to work while having young children. In the 1950's most women with young children did not participate in the labor force. Since the 1950's, working mothers have become more common. The labor force participation rate for mothers with children under 6 years of age was 12 percent in 1950, 19 percent in 1960, 30 percent in 1970, 45 percent in 1980, and 50 percent in 1983 (Waldman 1983). Thus, most mothers of young children did not work for pay during the 1950's and 1960's (Bowen and Finegan 1969; Oppenheimer 1970; Sweet 1973). During the 1970's fertility rates decreased and labor force participation rates increased among mothers of young children (Waldman et al. 1979). It was only in the 1980's that at least half of mothers with young children were in the labor force.

## Measuring caregiving

Total caregiving years can be estimated from the 1984 SIPP topical module to the third wave (mid-1984). This module identified for up to 4 instances, the reasons, and dates of having a period of at least 6 months without a paid job or business. The answer "Taking care of family or home" is used as a proxy for caregiving for the young, the disabled, or the elderly. However, some may report this response who maintain a home but do not care for family members. The SIPP data with calendar dates of full-time caregiving can be matched with years in which no earnings are recorded in the SER to flag years in which zero earnings can be attributable to caregiving. Here and after, the term "caregiving year" refers to a year after age 21 with both (1) zero covered earnings recorded in the SER and (2) a survey report that the person was out of the labor force to take care of family or home.

In 1986, the youngest women in this analysis were aged 36. Based on wave VIII data from early 1986, few still had young children. Only 18 percent of women in the latest birth cohort (who were born in 1945-1949) had children born from 1980-1986 (table 1). In addition, most had completed childbearing: only 3 percent expected to have more children. However, these women obviously have many more years before retirement in which to work for pay or to stay out of the labor force while caring for the elderly or disabled. There is no available information with which to estimate future caregiving of the elderly and disabled. Thus, these findings on caregiving should be interpreted with caution.

This analysis assumes that most caregiving among these women is mainly for childcare. Dates given for childbirth in the SIPP were chronologically close to caregiving years of many women. This was determined by looking at where most (defined as 85 percent or more) rather than all caregiving years fall in relation to children's ages. Eighty-five percent of women with caregiving years had most of their caregiving years within 17 years of the first or last child's birth, 62 percent within 11 years of the first or last child's birth, and 43 percent within 5 years of the first or last child's birth. <sup>3/</sup> However, this may not be the case in future years. As the population ages, an increasing number of women may care for the elderly and disabled. Analysts in the SSA Office of Research and Statistics have proposed to the Census Bureau that future SIPP panels distinguish different types of caregiving for minor children, aged or disabled family members, and other family or home responsibilities.

## Zero earnings years

Women had far more zero earnings years through 1986 than men after attaining age 22. Women born in 1930-1949 averaged 11.3 years with no covered earnings, while men of the same ages averaged only 3.7 years (see panel 1 of table 2). Fully 91 percent of women experienced at least one year with no earnings, compared with only 64 percent of men. As many as 69 percent of women but only 22 percent of men had more than 5 years with no earnings. And 49 percent of women had more than 10 years with no earnings. Thus, at least 69 percent of women but only 22

percent of men would experience reduced social security benefits from having more than 5 years with no covered earnings.

Associating years in which men and women were out of the labor force for caregiving with data on covered earnings, caregiving accounts for a substantial portion of women's zero earnings years. The majority of women had at least some caregiving years (table 2). Fully 55 percent of women had some caregiving years, 37 percent had more than 5 years, and 22 percent had more than 10 years. While almost no men (0.2 percent) had any caregiving years, women averaged a mean of 5 years.

If the benefit computation excluded all of women's caregiving years, the number of zero earnings years would be cut in half (table 2). The average number of zero earnings years would be reduced from 11.3 to 5.9 years. Because the benefit formula eliminates 5 low earnings years, only women with more than 5 zero earnings years would receive lower retirement benefits from the provision of caregiving dropout years. After dropping all caregiving years from the benefit computation, the percentage with more than 5 zero years would fall from 69 percent to 35 percent.

Data are less complete for the women born in the 1940's than for women born in the 1930's. But these later cohorts of women are important to the consideration of caregiving dropout years because patterns of labor force participation are changing. Women born in the late 1940's have fewer years with zero earnings and fewer caregiving years than women born earlier (table 2B). Only 26 percent of women born in the late 1940's had more than 5 years with zero earnings associated with caregiving compared with 48 percent of women born in the early 1930's. This lower number of caregiving years may indicate that later cohorts of women spend less time out of the labor force caring for children than earlier cohorts, or reflect incomplete work and caregiving histories.

#### Distributional effects

In considering any policy changes, one consideration is the types of women or families who would be affected by such a change and how they would be affected. one of the goals of government income security policy is to provide equitable and adequate benefits. The variables used in this analysis include marital status, race, number of children, family income, education and PIA level of women, education and PIA level of husbands of currently married women, and whether currently married women will be dually entitled to retired worker and spouse benefits. These demographic and socioeconomic characteristics (other than PIA's and entitlement status) affected women's labor force participation in the 1950's through 1970's, and this is reflected in caregiving years. Table 3 shows the average number of caregiving years and the percentages of women with any caregiving years and with more than 5 caregiving years by these characteristics.

Marital status is related to the types of benefits for which women may be eligible. Never married women will be eligible for only a benefit based on their own earnings. Currently married

women will be eligible for either their own worker benefit or an auxiliary spouse benefit (about half of their husband's benefit). Formerly married women will be eligible for either their own retired-worker benefit or an auxiliary benefit as a divorced spouse or widow. <sup>4/</sup> The formerly married include widows, but the majority of formerly married women in this age group were divorced or separated. In addition to the type of benefit issue, married women tend to be better off financially than never married or formerly married women because of their husband's income. While 61 percent of currently married women had some caregiving years, only 45 percent of formerly married women and 5 percent of never married women had any caregiving years (table 3). Married women also were much more likely to have more than 5 caregiving years than formerly or never married women. If one assumes that the currently married have been married for more years than the formerly married, the pattern of childcare years in relation to marital status may reflect the greater ability of women while married to afford to stay out of the labor force for more years. Newer cohorts of women who had higher divorce rates leading to fewer years of marriage may benefit less from childcare dropout years than previous cohorts.

As one might expect, the more children a woman had the more likely she was to stay home caring for her children and the more caregiving years she had. While only 16 percent of women with no children had some caregiving years, 60-67 percent of women with two or more children had them. And less than 20 percent of women with only one child compared with about 50 percent of women with 3 or more children had more than 5 caregiving years. Mothers of more children would be more likely to benefit from caregiving adjustments.

Minorities are consistently less well-off economically than others in their working years as well as in retirement. Nonwhite women and women of Hispanic origin were much less likely to have years of zero earnings due to caregiving than the nonminority population. Black women were half as likely as white women to have any such years and only one-third as likely to have more than 5 caregiving years. Hispanic women were four-fifths as likely as nonhispanic women to have any caregiving years and two-thirds as likely to have more than 5 caregiving years. Thus, minority women would be less likely than nonminority women to benefit from credit for caregiving years.

Family income is expected to affect the ability to afford full-time caregiving. Ideally, one would have income measures during caregiving years, but SIPP contains only current income. This measure of income may say less about affordability of caregiving than about whether high or low income women would be more likely to benefit from childcare dropout years. An income equivalence ratio was calculated to indicate current income relative to need using the family income reported in SIPP's first month divided by the poverty line for a family of that size. The quartiles of the equivalence ratios distinguish women with lower family income from those with higher income. Women in the lowest quartile averaged one fewer caregiving year than women in the higher three quartiles: 4.7 compared to about 5.6 years. Lower-income women were somewhat less likely to have any caregiving years and more than 5 caregiving years. Thus, women with the lowest family incomes appear to be less likely to benefit from caregiving dropout



years.

Education of the woman measures investment in her own human capital. Education of the woman and her husband is also associated with the couple's income, and their ability to afford to support a family on one paycheck. Women with more education would tend to be more likely to afford to stay at home for caregiving. However, they may be less inclined to stay at home because of their greater investment in human capital and the greater tendency for more recent cohorts of married women with young children to work, as noted earlier. In fact, variation in education is only weakly associated with caregiving years. Women with fewer than 12 years of education were the least likely to have any caregiving years, and those with exactly 12 years of education were the most likely. Those with more than 12 years were in between the other two groups. Women with exactly 12 years of education also were the most likely to have more than 5 years of caregiving. Currently married women whose husbands had 12 or more years of education were somewhat more likely to have caregiving years and to have more than 5 caregiving years than those whose husbands had fewer than 12 years of education.

The primary insurance amount (PIA), the basis of social security benefits, takes into account average lifetime earnings. PIA's not only reflect the size of earnings but also time spent out of the labor force. Because this cohort of women do not have full work histories, future earnings had to be estimated. Future earnings were estimated using the maximum earnings observed in the Summary Earnings Record. For a fuller discussion of the estimation, see the section of this paper describing this and other estimation methods. 5/

Families in which the husband has higher lifetime earnings would be expected to be more able to afford having the wife stay out of the labor force. And caregiving was more likely among wives of high PIA husbands than among wives of low PIA husbands. About 10 percent more wives with husbands having PIA's in the highest two quartiles had any caregiving year and more than 5 caregiving years than did wives with husbands having PIA's in the lowest two quartiles caregiving years should lower a woman's expected benefit level. And women with low PIA's were indeed much more likely to have more caregiving years. About two-thirds of women with PIA's in the bottom two quartiles compared with just over a quarter of women with PIA's in the highest quartile had any caregiving years. About half with PIA's in the lowest two quartiles of benefits had more than 5 caregiving years, compared with only a tenth of those with PIA's in the highest quartile. In addition, the average number of caregiving years decreased from about 10 years for women with the lowest PIA's to only 1 year for women with the highest PIA'S.

Another measure of the woman's level of prior earnings that has policy implications for the Social Security program is whether the woman has earned a higher benefit than the one she is entitled to as a wife. Wives whose estimated retired-worker benefit is lower than their estimated benefit as a wife are considered to be "dually entitled". 6/ These women expected to be "dually entitled" averaged almost 10 caregiving years compared with only 3 years for those not expected to be dually entitled. The dually entitled also were much more likely to have caregiving years and to have more than 5 caregiving years than the nondually entitled. About three-quarters of dually

entitled married women had caregiving years compared with only half of those not dually entitled. About three-fifths of the dually entitled compared with only a quarter of those not dually entitled had more than 5 caregiving years.

The time that dually entitled women spent out of the labor force caring for family appears to have played a part in reducing their benefit below that to which they would be entitled as a wife. The Social Security program in the 1930's provided benefits for stay-at-home wives of working husbands. As fewer women spend large parts of their lives out of the labor force caring for family, the need for these auxiliary benefits is questioned by some.

### Logistic regression estimates

Because many of the demographic and socioeconomic characteristics reviewed above overlap and do not vary independently, cross-tabulations of individual variables cannot identify which variables are independently related to the likelihood of having caregiving years and which variables are related by association with other variables. A logistic regression model was estimated to determine which of these variables are significantly related to caregiving when controlled for others. Unweighted logistic regression models predicting the odds of any caregiving year and the odds of more than 5 caregiving years were estimated (table 4).<sup>7/</sup> These models identified which demographic and socioeconomic characteristics statistically increased the odds of caregiving. The models included marital status (currently married, never-married, formerly married is omitted), race (black, other is omitted), ethnicity (Hispanic, Other is omitted), respondent's and husband's education (less than 12 years, 12 years, more than 12 years is omitted), family income equivalence ratio quartiles (lowest, second, third, highest is omitted), and husband's PIA quartiles (lowest is omitted, second, third, highest). The models also included the number of children ever borne and the woman's year of birth.

All of the demographic characteristics were significantly associated with the odds of caregiving and having more than 5 caregiving years. The odds were higher among women who had borne more children. Compared with formerly married women (for the most part divorced), the odds were significantly higher among currently married women and lower among never married women.<sup>8/</sup> The odds were significantly lower among black than nonblack, among Hispanic than nonhispanic, and among younger than older women. <sup>9/</sup> These patterns are consistent with the literature on labor force participation rates in the 1960's and 1970's.

Several socioeconomic characteristics significantly affected the odds of any caregiving years and the odds of more than 5 caregiving years. Any caregiving and caregiving for more than 5 years were significantly higher among women with husbands having higher PIA'S. The model also assesses the effects of current family income in relation to needs. The contrast is between the first three quartiles and the omitted highest quartile. Women with lower current family income equivalence ratios were significantly more likely to have caregiving and more than 5 years of caregiving. <sup>10/</sup> This reverses the pattern found in table 3 in which lower income women were less likely to have caregiving. Apparently, other characteristics accounted for lower rates of

caregiving of currently lower income women. Educational attainment of a woman or her husband generally failed to significantly affect the odds of any caregiving. However, women with exactly 12 years of education were significantly more likely and wives with less educated husbands were significantly less likely to have more than 5 years of caregiving. 11/

Thus, for the most part, the groups of women statistically more likely to benefit from the provision of childcare dropout years in the benefit calculation are those that tend to be better off--women in intact marriages, wives with husbands who have higher PIA'S, nonblack women, and nonhispanic women. However, women born in the 1940's and living in families with lower current income were more likely to have caregiving years after controlling for other factors.

#### Caregiving adjustments: a simulation method

If caregiving dropout years were provided in PIA calculations, PIA's and potential dual entitlement of women in retirement would change. These changes were estimated using simplifications to the actual benefit calculation. The first simplification involved which years of earnings to include. The PIA estimation in this paper uses earnings from ages 22 through 56 of all persons in the analysis group. However, actual PIA calculations use the highest 35 years of earnings at any age, and in fact, many work past age 56. Men are more likely to continue working at more advanced ages, often at a higher earnings level than in the early years of their work history. Women are more likely to earn fewer than 40 quarters of coverage and therefore not to become entitled to benefits on the basis of their own earnings. In future years, some may reduce earnings when caring for elderly relatives. Others may shift into part-time jobs or leave the labor force before age 57 for caregiving or possibly becoming disabled themselves.

A second simplification involved estimation of future years of earnings of individuals who had not attained aged 56 by 1986. Three methods were used to determine how sensitive the results are to how PIA's are estimated--the average annual SER earnings, the most recent annual SER earnings in 1982-1986, and the maximum level of annual SER earnings--indexing individual years of earnings by the average wage levels in the 1990 PIA formula.

- (1) The average method applies the current law procedure by averaging all of the years of indexed earnings reported by 1986 in the SER from ages 22 through 56.

Because many women had caregiving years in this period, this method will tend to underestimate future earnings through age 56 when most women would not be caring for young children and thus, would be more likely to work. Using the average method of estimating future earnings, women's mean PIA benefit (\$315.50) averaged 46 percent of men's mean PIA benefit (\$679.70). (See table 5.)

- (2) The most recent earnings method assumes current choices in labor supply and pay

rates will apply in future years.

For those late in their work career, this is the most likely scenario. It assumes established career patterns will apply to the future. However, for those as young as age 37 in 1986, most recent earnings could include caregiving years and provide expected PIAs that are too low. Using the most recent method of estimating future earnings, the average PIA's of women and men increased \$24 and \$17, respectively, over those estimated by the average future earnings method.

- (3) The maximum method may overestimate future earnings by assuming the highest annual covered earnings through 1986 will apply through age 56.

This method is probably unrealistically high, particularly for women. Although greater work experience may lead to higher earnings, some will need to shift labor supply and/or pay rates. By this method, the average PIA's of women and men increased \$108 and \$89 respectively, over those estimated by the average earnings method.

Of the three estimates, the maximum estimate most closely approximates the PIA's of newly awarded retired-worker women in December, 1988 (\$423.10 compared with \$401.20) and the ratio of women's to men's PIA's (55 percent compared with 59 percent). The average method almost exactly matches the PIA's of newly awarded retired-worker men in December, 1988 (\$679.50).

This simulation uses three methods. The average method is probably unrealistically low for women. The most recent method is probably the most likely but may tend to underestimate benefits for younger members of the study cohort who have more years of earnings that must be estimated on only the first few years of their work history. The maximum method probably tends to overestimate future earnings. Projecting earnings only through age 56 probably underestimates the expected benefits of men relative to women. Because the sample has not reached retirement, these estimates may differ from actual calculations at the time of retirement.

#### Caregiving adjustments: effects on PIA benefits

Table 5 presents the estimated mean PIA's of men and women with no caregiving years, 5 caregiving years, and all caregiving years dropped from the PIA formula. Figures are shown separately for the entire sample born in 1930-1949, and for those with 40 quarters--the number required to be eligible for retired-worker benefits after 1990.<sup>12/</sup> Ratios of women's to men's mean PIA's are also shown. Table 6 presents the change in the mean PIA of women relative to men and the mean dollar change in PIA's of men and women resulting from caregiving adjustments to the PIA.

How would an adjustment for caregiving affect the estimated PIA benefit of women

relative to men? The effects are remarkably similar regardless of which of the three earnings simulations is used and also for both the total sample and those with 40 or more quarters of coverage. Excluding up to 5 caregiving years from the benefit computation increases the mean PIA of women relative to men by only 2-4 percentage points (table 6). While the adjustment increases men's average benefit by only ten cents, it increases that of women by \$16-\$27, depending upon the simulation method and sample group. A more extensive change, eliminating all caregiving years from PIA calculations, more than doubles the increases in the average benefit of women relative to men to 7-12 percentage points.

Using the maximum method of estimating earnings, for example, women's average PIA relative to that of men would increase from 55 to 58 percent if up to 5 caregiving years were eliminated and to 64 percent if all caregiving years were eliminated (table 5). When the sample is restricted to those with 40 or more quarters of coverage by 1986, the ratio of women's to men's mean PIA's increases from 68 percent to 70 percent with 5 caregiving years, and to 75 percent with all caregiving years eliminated from the calculation. A substantial disparity in average benefits of women compared with men would remain after adjustment for up to 5 caregiving years, and even after adjustment for all caregiving years.

To what extent does adjustment for caregiving reduce the estimated likelihood of receiving auxiliary benefits as a spouse or as a widow? The ratio of a wife's PIA to her husband's PIA determines whether she receives a retired-worker benefit, a spouse benefit if her husband is living, or a widow benefit if her husband has died. If her own retired-worker benefit is less than half of his benefit and her husband is living, she receives the amount equal to her spouse benefit at retirement. If her retired-worker benefit is less than his benefit and her husband is dead, she receives an amount generally equal to his benefit after his death.

Using PIA estimates for currently married women, percentages of wives who would receive a larger wife or widow benefit than their own PIA were estimated. Disregarding up to 5 caregiving years would reduce receipt of wife's benefits by about 3-5 percentage points and receipt of widow's benefits by an even smaller 1-2 percentage points (table 7). If all caregiving years were eliminated, those receiving spouse benefits would decrease by 11-17 percentage points, but those receiving widow benefits still would decrease by only 3-6 percentage points. The very modest impact of caregiving on receipt of widow benefits reflects the fact that widows are generally eligible for an amount equal to their husband's full PIA. Apparently few wives have such high PIA's even after adjusting for caregiving.

Generally these conclusions seem quite robust regardless of the method of estimating future earnings. The size of the difference before and after caregiving adjustments among those with at least 40 quarters of coverage parallels that of all wives. Of course, the actual experience of this cohort at retirement may differ from this paper's estimates.

## Summary

This paper examined the characteristics of women that would be affected by social security benefit adjustments for years with zero earnings that are associated with caregiving. The analysis examined a special SIPP file matched to official SSA administrative earnings records. The analysis illustrates that such linked data provide useful information which is unavailable separately from either the SIPP or SSA administrative records. The results of this analysis are preliminary and further research is planned on the subject.

The analysis shows that women born between 1930 and 1949 had, on average, 11 years with no covered earnings by 1986, and caregiving (as measured by their survey response to reasons for being out of the labor force) accounts for about half of the years with zero earnings. The prevalence of years out of the labor force for caregiving varies by demographic and socioeconomic characteristics. Caregiving years with zero earnings were significantly less likely among black, Hispanic, never-married, and younger women, and were significantly more likely among currently married women and women with more children ever borne. The odds of caregiving also were significantly higher among women with lower equivalence ratios of current family income relative to the poverty level and among wives whose husbands had higher PIAs from average lifetime earnings.

Using estimations of PIA's from SER records and projections of future earnings through age 56, we find that allowing for up to 5 caregiving years would have very limited effects on benefit amounts. Excluding all caregiving years would have more substantial effects increasing women's mean PIA relative to men by about 7 to 12 percentage points and reducing the proportion of wives eligible for a wife benefit larger than their own retired-worker benefit by about 9-17 percentage points. Close to 90 percent of currently married women appear to be eligible for a widow benefit larger than their own retired-worker benefit under the current benefit formula, and this would decrease by only 3-6 percentage points after dropping all caregiving years from the benefit calculation. Thus, based on these estimates, caregiving adjustments would have little effect on the size of benefits for widows of deceased beneficiaries. In general, their main effect on wives would be to raise their benefits compared with those of their husbands. Nevertheless, substantial gender disparities would continue after adjustment for caregiving.

These estimates of PIA effects may be biased by limiting earnings to ages 22 through 56, and by the method of projecting future earnings after 1986. Consequently, the analysis applied three quite different methods to project future earnings. The maximum method probably overestimates the future earnings of women, while the average method probably underestimates the future earnings of women. Nevertheless, the results were remarkably similar across methods. The results also were quite similar between estimates for the total sample with matchable earnings records and the sample with at least 40 quarters (full coverage) by 1986. The consistency of results suggests that the results are robust; however, there is no consensus that these approaches to simulating earnings after 1986 correctly estimate future behavior.

These estimates also may be biased by the question format for identifying caregiving in the SIPP. This analysis demonstrated the utility of asking reasons for being out of the labor force for

a substantial period and the need to better measure caregiving. The 1984 SIPP asked why persons were out of the labor force for at least 6 months up to four times since age 2-1 and included "taking care of home and family" as one reason for nonparticipation. Subsequent SIPP panels were asked about only the most recent time out of the labor force. Consequently, analysts in the SSA Office of Research and Statistics have proposed reintroducing the 1984 SIPP format and altering the question responses to distinguish caregiving of minor children, of the elderly and disabled, and of the home. The proposed change would occur in wave VI of the 1990 SIPP and awaits approval by OMB.

This paper examined the extent to which retirement benefits are reduced by having years with zero earnings associated with caregiving. This is a conservative approach to estimating the caregiving effects on benefits because it looks only at withdrawal from the labor force as opposed to reducing labor force participation. Rather than withdrawing entirely from the labor force, some women reduce or restrict labor force activity which reduces wages and/or labor supply and annual covered earnings. Such periods of reduced earnings lower Average Index Monthly Earnings and benefits. Future analyses will consider the caregiving effects on benefits from lowering rather than eliminating earnings.

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**Table 1: Year of birth of last child by birth cohort 1900- 1949**

Year of last child's birth	Total	Birth Cohort			
		1930-1934	1935-1939	1940-1944	1941-1949
Total number (in 1,000's)	25,660	5,156	5,485	6,704	8,315
Total percent	100	100	100	100	100
Percent mother's	88	89	90	89	86
Year of last birth					
1940-1949	0	2	0	0	0
1950-1959	8	31	9	1	0
1960-1969	37	47	58	42	13
1970-1979	35	9	22	42	55
1980-1986	7	0	1	5	15

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SOURCE: 1984 Survey of Income and Program Participation, topical Module to wave 8.

**Table 2--Years with no covered earnings and reason for being out of the labor force, by gender for persons born 1930-1949**

Years with no covered earnings and reason	Women	Men
Total number (in thousands)	26,719	25,382
Zero Earning Years		
Mean	11.3	3.7
Percentage with--		
Any Years---	90.9	63.8
More than 5 years	69.1	21.7
More than 10 years	48.7	12.7
Family Caregiving		
Mean	5.4	0
Percentage with--		
Any Years	54.7	0.2
More than 5 years	36.7	0.1
More than 10 years	22.0	0.1
Independent of family caregiving		
Mean	5.9	3.7
Percent with--		
Any years	79.5	63.8
More than 5 years	35.3	21.6
More than 10 years	20.6	12.6

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Source : 1984 Survey of Income and Program Participation: 12 month file matched to SSA Summary Earnings Records.

**Table 2B: years with no covered earnings through 1986 by caregiving. birth cohort, and gender for persons born 1930-1949 <sup>1</sup>**

Years with no covered earnings through 1986 and reason	Total	Women				Total	Men			
		Birth Cohort					Birth Cohort			
		1930-1934	1935-1939	1940-1944	1945-1949		1930-1934	1935-1939	1940-1944	1945-1949
Total number (in 1,000's)	26,719	5,369	5,916	6,784	8,650	25,382	5,063	5,412	6,463	8,443
Zero Earning Years										
Mean	11.3	17.1	14.0	9.8	7.0	3.7	6.3	3.4	3.4	2.6
Percentage with--										
Any year	90.9	96.6	95.3	90.0	85.0	63.8	82.1	58.7	60.4	58.6
More than 5 years	69.1	84.4	80.2	66.5	54.1	21.6	33.6	19.2	20.6	17.0
More than 10 years	48.7	71.3	61.4	44.7	29.2	12.7	22.6	11.8	11.8	8.0
Family caregiving										
Percentage with--										
Any year	5.4	8.4		4.9	3.2	0.0	0.0	0.0	0.0	0.0
More than 5 years	54.7	61.0	58.8	56.2	47.0	0.2	0.3	0.2	0.2	0.1
More than 10 years	36.7	48.1	42.5	36.6	26.0	0.1	0.3	0.0	0.0	0.1
More than 10 years	22.0	35.6	28.5	20.4	10.5	0.1	0.2	0.0	0.0	0.1
Independent of family caregiving										
Mean	5.9	8.7	7.5	5.0	3.9	3.7	6.3	3.4	3.4	2.6
Percentage with--										
Any year	79.5	86.3	83.5	77.0	74.4	63.8	82.1	58.7	60.4	58.6
More than 5 years	35.3	47.6	43.4	31.3	25.2	21.6	33.4	19.0	20.6	17.0
More than 10 years	20.6	31.9	28.2	16.4	11.6	12.6	22.3	11.8	11.8	8.0

SOURCE: 1984 Survey of Income and Program Participation: 12 month file matched to SSA Summary Earnings Record

(1)Years with no covered earnings from age 22 through 1986. Caregiving years are those in which persons reported being out of the labor force to take care of home or family.

**Table 3 : Average number of caregiving years and percentage with caregiving years by selected characteristics for women born 1930-1949(1)**

Characteristics (In 1,000's)	Total Number Years	Average Years	<u>Percent with</u>	
			Any	More than 5 years
Total	26,719	5.4	54.7	36.8
Marital status--				
Currently married	19,722	6.2	61.3	42.3
Formerly married	5,495	3.7	44.9	26.4
Never married	1,501	0.4	5.1	2.3
Number of Children ever borne --(2)				
None	2,967	1.4	16.5	9.4
One	3,042	3.0	41.9	19.7
Two	7,955	5.1	59.9	37.5
Three	5,531	7.2	67.0	50.2
Four or more	6,159	7.2	62.9	46.5
Race--				
Black	2,998	2.0	29.0	13.8
White	22,912	5.9	58.7	40.1
Other	810	3.8	38.7	26.5
Hispanic origin--+				
Hispanic	1,592	3.8	44.3	24.5
Nonhispanic	25,127	5.5	55.4	37.6
Family income equivalence ratio--				
Lowest quartile	6,702	4.7	49.3	31.4
Second quartile	6,687	5.6	56.7	39.0
Third quartile	6,677	5.7	58.6	39.2
Highest quartile	6,653	5.6	54.4	37.5
Education Level--				
0-11 years	5,278	5.2	49.2	33.8
12 years	11,727	6.0	58.3	40.5
Over 12 years	9,715	4.7	53.5	33.9
Current husband's Education level--				
0-11 years	3,837	6.0	54.9	38.2
12 years	6,354	6.6	64.1	43.2
Over 12 years	8,650	6.2	62.8	43.2
Current husband's expected PIA --				
Lowest quartile	4,735	5.5	53.7	36.5

Second quartile	4,687	5.8		57.6	37.2
Third Quartile	4,697	7.4		66.8	46.8
Highest quartile	4,723	6.4		68.8	49.4
Expected PIA--					
Lowest quartile	6,652	9.7		63.1	53.9
Second quartile	6,729	6.8		69.4	51.4
Third quartile	6,685	3.8		58.2	31.8
Highest quartile	6,652	1.3		28.1	9.8
Expected dual entitlement--					
for currently married women					
Dually entitled	8,786	9.8		76.0	62.2
Not Dually entitled	10,055		3.2	49.2	24.9

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Source : 1984 Survey of Income and Program Participation: 12-month file matched to Summary Earnings Records

(1) Caregiving years are from age 22 through 1984. Expected PIA's and dual entitlement are based in part on simulations (see text).

(2) Number of children ever borne is from Topical Module to Wave 8.

**Table 4: Logit regression: Odds of any caregiving years and more than 5 caregiving years by selected characteristics for women born 1930-1949.**

Characteristics	Any Caregiving			More than 5 caregiving years		
	Final logit Coefficient	Standard Error	Chi Square(1)	Final logit Coefficient	Standard Error	Chi Square(1)
<b>Demographic characteristics:</b>						
Currently married	0.42	0.14	9.54**	0.59	0.15	16.12***
Never married	-1.73	0.31	31.67***	-1.48	0.41	13.28***
Number of children borne	0.24	0.03	73.92***	0.25	0.03	79.92***
Black	-1.25	0.15	72.06***	-1.55	0.19	67.57***
Hispanic	-0.40	0.18	5.05*	-0.55	0.20	7.82**
Birth year	-0.04	0.01	22.15***	-0.07	0.01	84.78***
<b>Socioeconomic characteristics:</b>						
Less than 12 years of education	-0.16	0.13	1.42	0.07	0.14	0.30
12 years of education	0.11	0.10	1.25	0.31	0.10	9.45*
<b>Family income equivalence ratio</b>						
Lowest quartile	0.58	0.14	17.81***	0.49	0.14	12.39***
Second quartile	0.45	0.12	13.82***	0.47	0.12	14.57***
Third quartile	0.20	0.11	3.18	0.14	0.11	1.49
<b>Husband's characteristics:</b>						
Less than 12 years of education	-0.29	0.14	4.48*	-0.38	0.14	7.37*
12 years of education	0.03	0.11	0.06	-0.14	0.11	1.66
<b>Estimated PIA</b>						
Second quartile	0.15	0.12	1.47	-0.03	0.13	0.07
Third quartile	0.63	0.13	22.99***	0.35	0.13	7.22**
Highest quartile	0.88	0.14	41.41***	0.96	0.14	48.04***
Constant	0.38	0.33	1.33	0.92	0.34	7.28**
<hr/>						
-2 log likelihood of intercept only	4258.41			4116.15		
-2 log likelihood of model	3737.21			3586.18		
Chi Square	521.20***			529.97***		

SOURCE: 1984 Survey of Income and Program Participation: 12-month and wave VIII files matched to SSA Summary Earnings Record.

(1) Level of significance.. 0.05(\*), 0.01(\*\*), and 0.001(\*\*\*)

**Table 5 : Primary Insurance Amount (PIA) benefits adjusted for caregiving years by PIA estimation method, gender, and quarters of coverage, for persons born 1930 - 1949.**

PIA estimation method (1) and caregiving adjustment	Estimated PIA			Women's men PIA as a percentage of Men's PIA		
	Total Women	Men	Women	40 Quarters of coverage		40 Quarters of coverage
				Women	Men	
<b>Maximum earnings method</b>						
Eliminate no years	423.10	768.70	549.9	815.00	55.0	67.5
Eliminate 5 years	443.70	768.80	571.90	815.10	57.7	70.2
Eliminate all years	493.00	768.80	607.00	815.10	64.1	74.5
<b>Recent earnings method</b>						
Eliminate no years	339.60	696.30	492.60	753.90	48.8	65.3
Eliminate 5 years	355.80	696.40	512.20	754.00	51.1	67.9
Eliminate all years	393.00	696.50	543.70	754.10	56.4	72.1
<b>Average earnings method</b>						
Eliminate no years	315.50	679.70	464.70	736.30	46.4	63.1
Eliminate 5 years	338.90	679.90	491.20	736.40	49.8	66.7
Eliminate all years	400.80	679.90	535.40	736.50	58.9	72.7

Source: 1984 Survey of Income and Program Participation: 12-month file matched to SSA Summary Earnings Records.

(1) PIA estimate uses 35 years of observed and future covered earnings. Future earnings after 1986 are estimated using maximum annual observed earnings most recent observed earnings from 1982-1986, and an average of all observed earnings in the computation period.

**Table 6 : Percentage change in PIA's of women relative to men and dollar change in PIA's of women and men from adjusting benefits for caregiving, by PIA estimation method and quarters of coverage, for persons born 1930-1949.**

PIA estimation method (1) and caregiving adjustment	PIA of women relative to Men			Average PIA			
	Percent change		Women	Dollar change		40 Quarters of coverage	
	Total	40 Quarters of coverage		Total	Men	Women	Men
Maximum earnings method							
Eliminate 5 years	2.7	2.7	20.60	0.10	22.00	0.10	0.10
Eliminate all years	9.1	7.0	69.90	0.10	57.10	0.10	0.10
Recent earnings method							
Eliminate 5 years	2.3	2.6	16.20	0.10	19.60	0.10	0.10
Eliminate all years	7.6	6.8	53.40	0.20	51.10	0.20	0.20
Average earnings method							
Eliminate 5 years	3.4	3.6	23.40	0.20	26.50	0.10	0.10
Eliminate all years	12.5	9.6	85.30	0.20	70.70	0.20	0.20

Source: 1984 Survey of Income and Program Participation: 12 month file matched to Summary Earnings Records.

(1) PIA estimate uses 35 years of observed and future covered earnings. Future earnings after 1986 are estimated using maximum annual observed earnings, most recent observed earnings from 1982-1986, and an average of all observed earnings in the computation period.



**Table 7: Percent of currently married women with expected spouse benefit and with expected widow benefit, after caregiving adjustment by PIA estimation method and quarters of coverage, for women born 1930-1949.**

Type of SSA Benefit and PIA estimate(1)	Total			40 Quarters of coverage		
	Eliminate No adjustment	up to 5 caregiving years	Eliminate all caregiving years	Eliminate No adjustment	up to 5 years	Eliminate all caregiving years
<b>Maximum earnings method--</b>						
Percent with expected spouse benefit	46.6	42.0	31.0	23.1	18.5	12.2
Percent with expected widow benefit	89.0	87.8	85.4	84.0	82.1	79.2
<b>Recent earnings method--</b>						
Percent with expected spouse benefit	57.1	54.4	48.3	32.7	29.1	22.5
Percent with expected widow benefit	87.3	86.3	84.6	80.9	79.3	76.9
<b>Average earnings method--</b>						
Percent with expected spouse benefit	58.6	54.2	42.0	32.6	27.2	17.7
Percent with expected widow benefit	89.4	87.9	84.7	83.6	81.3	77.8

Source: 1984 Survey of Income and Program Participation: 12 month file matched to Summary Earnings Records

(1) PIA estimate uses 35 years of observed and future covered earnings. Future earnings after 1986 are estimated using maximum annual observed earnings, most recent observed earnings from 1982-1996, and an average of all observed earnings in the computation period.

## NOTES

1/ The SIPP universe is adults in the civilian, noninstitutionalized United States population. The social security program covers a slightly different population. With the exception of a small segment of the labor force, the social security program covers residents of the fifty States and D.C. and the armed forces overseas. It also covers the following: residents in U.S. territories of Puerto Rico, the Virgin Islands, Guam, and American Samoa; overseas Federal civilian employees; dependents of Armed Forces and Federal employees overseas; crewmembers of merchant ships; and other citizens overseas. Thus, the SIPP universe differs slightly from the SSA population, but relationships in the SIPP should apply to most of the SSA population.

2/ Annual covered earnings in the SER begin in 1951. Persons born in 1929 were the first with annual covered earnings posted on the SER beginning at age 22.

3/ Women born in the 1940's were more likely than women born in the 1930's to have caregiving years after childbirth. This pattern could reflect greater elder or disability care provided by older women, or it could reflect the diminished practice of full-time housework.

4/ Divorced spouses may receive auxiliary spouse or widow benefits if they had been married at least 10 years to their former spouse.

5/ Because of formula complications, husbands born before 1922 and after 1965 were excluded from computations. Data could only be matched for current husbands of married women in the SIPP. Matching could not be made for former spouses. Projected dual entitlement was based on comparisons between the expected PIA's of husbands and wives.

6/ This analysis includes all wives who had a SER matchable to the SIPP sample. It assumes women with a SER will become eligible for retired-worker benefits with 40 quarters of coverage. By 1986, 46 percent of women born in 1930-1949 had 40 or more quarters, and 42 percent had 30 or fewer quarters. However, some may not become fully covered for retired worker benefits. They would only be entitled to spouse benefits and should not be termed "dually entitled".

7/ Logistic regression models were estimated for women who were in the 12-month longitudinal file and in the wave VIII file which was needed to estimate the number of children ever borne. Table 4 presents models for women born in 1930-1949, but separate models were also estimated for five year birth cohorts to assess whether relationships differed by birth cohort. Differences are noted when applicable.

8/ Relative to formerly married women, currently married women were significantly more likely to have any caregiving years and to have more than 5 years of caregiving among women born in 1945-1949. However, current marriage generally failed to significantly relate to the likelihood of any caregiving or more than 5 years of caregiving among the other 5-year birth cohorts.

9/ Only those hispanic women born in 1940-1944 were significantly less likely than nonhispanic women to have any caregiving years and more than 5 caregiving years.

10/ The coefficient pattern by equivalence ratio quartiles varied across birth cohorts. Women born in the 1940's were generally more likely to have any caregiving and more than 5 years of caregiving when they had lower ratios of current income to needs, while those born in the 1930's generally did not. Variation across cohorts could occur if norms on family care differed across cohorts.

11/ This differed somewhat within 5 year birth cohorts. A woman's educational attainment failed to be significant in any 5 year birth cohort. Wives of husbands with 0-11 years of education had significantly lower odds of more than 5 years of caregiving among women born in the 1940's but not in the 1930's.

12/ The paper analyzed persons with SER records regardless of years of earnings. Those with 40 quarters by 1986 were fully covered; others may become fully covered before retirement. Quarters of coverage were based on earnings levels. A quarter of coverage was given for each \$500 of indexed covered earnings as provided in the 1990 formula, up to a maximum of 4 quarters in a year.