*This article addresses the importance of using data for couples rather than individuals to estimate Social Security benefits. We show how individual data can underestimate actual Social Security benefits, particularly for women, and discuss how its use has implications for policy evaluation.*

*Acknowledgements:* We thank Susan Grad, Alex Stricker, Paul Van de Water, Peter Wheeler, and Debra Bailey Whitman for comments and suggestions on earlier drafts of this article. This article is a revised version of an earlier paper presented at the Population Association of America Annual Meeting held in New York City in March 1999.

# *Using Data for Couples to Project the Distributional Effects of Changes in Social Security Policy*

*by Barbara A. Butrica, Howard M. Iams, and Steven H. Sandell, Division of Policy Evaluation, Office of Research, Evaluation, and Statistics, Office of Policy, Social Security Administration. The authors had equal responsibility for this work.*

## *Summary*

Under Social Security program rules, the aged receive Social Security benefits either as retired workers, spouses, divorced spouses, or widow(er)s. Retired-worker benefits are paid to workers who have 40 quarters of coverage over their lives. Auxiliary benefits are paid to spouses, divorced spouses, and widow(er)s of retired workers. Spouse benefits are computed using the earnings history of the current spouse for individuals who are married when they apply for benefits. Divorced spouse and widow(er) benefits are computed using the earnings history of the ex-spouse or deceased spouse with the highest PIA.

A large number of retired women are entitled to auxiliary benefits. Some women receive only auxiliary benefits, while the majority of women have their retired-worker benefit supplemented by auxiliary benefits. Because the level of Social Security benefits can reflect the relative lifetime earnings of both spouses, as a couple, using individual data to estimate Social Security benefits will tend to underestimate actual benefits, particularly for women.

However, detailed data for couples are often difficult to obtain. There is currently no known single data source that includes both marital and earnings history information. As a result, many researchers resort to estimating Social Security benefits using individual data or aggregate data, such as the average earnings of men and women.

The Social Security Administration's Office of Research, Evaluation, and Statistics, with substantial assistance from the Brookings Institution, the Urban Institute, and the RAND Corporation, is developing a model that overcomes this problem by using the marital and earnings histories of both marital partners to estimate Social Security benefits.

The Modeling Income in the Near Term (MINT) model projects retirement income (Social Security benefits, pension income, asset income, and earnings of working beneficiaries) from 1997 through 2031 for current and future Social Security beneficiaries using a unique data source—the Survey of Income and Program Participation (SIPP)—matched to Social Security Administration records.

Using MINT data, this article establishes the importance of using data for couples rather than individuals by examining the impact of changing Social Security benefits to reflect 40 years of lifetime earnings rather than the 35 years required under current law. We compare the effect of this policy change on married women by estimating their benefits with data for couples and with individual data.

Results indicate that:

- Using individual data overestimates the projected reduction in retirement benefits brought about by the policy change and makes the effects on women look more severe than they actually are.
- Because older birth cohorts are more likely than younger cohorts to receive auxiliary benefits based on their husbands' average lifetime earnings, the bias created by using individual data is projected to be much larger for older cohorts than for younger cohorts.

This article emphasizes the importance of using data for couples to estimate Social Security benefits, particularly for women. Although our focus is on married women, using data for couples is just as important for calculating the retirement benefits of divorced and widowed individuals. For individuals who are divorced or widowed at retirement, their Social Security benefits are based on their own earnings history, as well as the earnings histories of each of their previous spouses.

## *The Importance of Using Data for Couples*

This article establishes the importance of using data for couples rather than data for individuals to estimate Social Security benefits. To do this, we use data describing the major sources of retirement income from the Social Security Administration's (SSA's) project on Modeling Income in the Near Term (MINT). The MINT model projects retirement income (Social Security benefits, pension income, asset income, and earnings of working beneficiaries) from 1997 through 2031 for current and future Social Security beneficiaries using a unique data source—the Survey of Income and Program Participation (SIPP)—matched to SSA administrative records. We examine the impact of changing Social Security benefits to reflect 40 years of lifetime earnings rather than the 35 years required under current law and compare the effect of this policy change estimated with data for couples and with data for individuals. We focus on the group of individuals born between 1931 and 1960.

Because couples tend to pool their resources, using individual data alone to measure economic well-being may underestimate or overestimate how well-off that individual is. However, for a number of reasons, many researchers continue to measure economic well-being using data for individuals instead of data for couples. For example, in the analysis of retirement income, a common focus is the retirement income of individuals. Gustman and Steinmeir (1998) observe that "because pensions are employment based, the pension literature and popular press commonly focus on the distribution of pensions among individuals rather than households." A similar focus occurs emphasizing the Social Security benefits of individuals rather than married couples (Kingson and O'Grady-LeShane 1993; Sandell and Iams 1994, 1996). Because detailed data for couples are often difficult to obtain, researchers sometimes resort to estimating Social Security benefits using data for individuals or aggregate data, such as the average earnings of men and women.

### *Social Security Rules*

Under Social Security program rules, the aged receive Social Security benefits either as retired workers, spouses, divorced spouses, or widow(er)s. Benefits are computed by indexing annual earnings over a person's working life and then calculating average indexed monthly earnings (AIME) and the primary insurance amount (PIA—or the benefit payable at the normal retirement age, currently 65).

Retired-worker benefits are paid to workers who have 40 or more quarters of coverage over their working lives. Auxiliary benefits are paid to spouses, divorced spouses, and widow(er)s of retired workers. Spouse benefits are computed using the earnings history of the current spouse for persons who are married when they apply for benefits. The size of this benefit is effectively equal to one-half of the current spouse's PIA, unless it is reduced for early retirement. Divorced spouse and widow(er) benefits are computed using the earnings history of the ex-spouse or deceased spouse with the highest PIA. Unless they are reduced for early retirement, the divorced spouse benefit is effectively equal to one-half of the ex-spouse's PIA, and the widow(er) benefit is effectively equal to the deceased spouse's full PIA.

Retired workers are "dually entitled" if (1) they are entitled to their own retired-worker benefits, and (2) the auxiliary benefits as spouses, divorced spouses, or widow(er)s to which they are entitled are larger than their retired-worker benefits. Because women's earnings are lower on average than men's, many women who earned retired-worker benefits receive higher benefits as wives, divorced spouses, and widows. (This would, of course, apply to men whose spouses had higher earnings. However, more than 98 percent of persons with dual entitlement are women.) SSA first calculates the individual's retired-worker benefit and then gives the individual, as a supplement, the difference between the retired-worker's benefit and the full spouse's, divorced spouse's, or widow(er)'s benefit to which he or she is entitled.

Thus, an individual's Social Security retirement benefit depends not only on his or her earnings history, but also, to a large extent, on his or her marital history and the earnings histories of current and previous spouses. Because the level of Social Security benefits can reflect the relative lifetime earnings of both spouses, as a couple, using individual data to estimate Social Security benefits will tend to underestimate actual benefits, particularly for women.

### *The MINT Model*

The previous discussion suggests that empirical analyses of Social Security benefits based on data without the actual or projected earnings and benefits of both marital partners can be incomplete and/or misleading. This is especially true for analyses of women's economic well-being in retirement. The MINT model overcomes this problem by using the marital and earnings histories of both marital partners to estimate Social Security benefits and retirement income. The Social Security Administration's Office of Research, Evaluation, and Statistics,

with substantial assistance from the Brookings Institution, the Urban Institute, and the RAND Corporation, developed the MINT model.

For individuals born between 1926 and 1965, the MINT model links their demographic information and marital histories from SIPP panel data with their earnings histories from SSA administrative data. Using these data, the MINT model makes independent projections of each retiree's income from Social Security benefits, pensions, assets, and earnings (for working beneficiaries).

Because the policy universe of interest in the MINT model includes current and future retirees who are expected to receive Social Security retirement and survivor's benefits, the MINT project also models marital status and mortality data for persons born between 1926 and 1965. Using hazard models applied to survey data, the MINT model statistically projects the expected date of death and marital history of these persons. The MINT model also statistically creates expected former and future spouses not directly observable from the SIPP panels.

Lee Lillard and Stan Panis of the RAND Corporation projected the expected date of death with hazard models using the Panel Study of Income Dynamics (PSID) and adjusted the estimates to reflect patterns in U.S. Vital Statistics life tables. They also projected marital change with hazard models using PSID data and SIPP reported marital histories. Karen Smith of the Urban Institute simulated the spouses of former marriages and future marriages to supplement the actual married couples in SIPP. With these MINT data, we match together spouses of married beneficiaries and estimate joint retirement income of couples. In addition, the MINT model statistically projects the year in which an individual first receives Social Security disability benefits. Gary Burtless of the Brookings Institution statistically projected the onset of Social Security disability benefits with probit equations using SSA benefit records and RAND's prediction of a health problem that limits the kind or amount of work a person can do.

In estimating the retirement income of the MINT universe, Gary Burtless first statistically projected annual earnings in 1997 through 2031 or through age 67 (whichever comes first) using observed earnings from SSA records and predictors of age stratified by education and gender groups in a fixed-effects model. Using logit models, Melissa Favreault of the Urban Institute estimated the age at which an individual first receives Social Security retirement benefits. The MINT model estimates Social Security benefit payments using year-by-year earnings (either observed or projected) expected until retirement age. These earnings are indexed, averaged over the individual's working life, and then converted to basic benefits and reduced for early retirement.

Cori Uccello of the Urban Institute estimated expected pension benefits from defined benefit and defined contribution plans (401k type plans) based on coverage information reported in SIPP, characteristics of employer pension plans tabulated by the Bureau of Labor Statistics, and expected investments of estimated contributions.

John O'Hare of the Urban Institute statistically projected reported assets from SIPP in the 1990s until retirement age by fitting SIPP assets to a wealth-age profile observed in the 1984–93 data from the PSID. Retirement income from wealth is measured as the annuity value of financial assets. The MINT model also estimates the rental equivalent of housing wealth as a separate income component that can be included in any measure of asset income. Using probit equations, Carolyn Ratcliffe of the Urban Institute estimated the probability that people continue working after benefit receipt and projected the earnings of working beneficiaries with data from SSA benefit and earnings records. The MINT model is described in greater detail in Panis and Lillard (1999) and Toder and others (1999).

While the MINT data system includes information on individuals born between 1926 and 1965, the policy universe for retirement income estimates is the surviving population born from 1931 through 1960 that is expected to reach retirement age and to receive Social Security retirement and survivor benefits. In addition to these sample criteria, the policy universe of the analyses described in this article excludes disabled persons.

### *Data for Couples Versus Data for Individuals in the MINT Model*

The level of Social Security benefits can reflect an individual's current and past marital status. Therefore, using data for individuals to compute Social Security benefits will tend to underestimate the retirement benefits of currently as well as previously married individuals. This is particularly true for women. Table 1 describes the projected marital status of women at retirement age by birth cohort. In this article, retirement is defined as the age at which an individual first receives Social Security retirement benefits. While the share of unmarried women at retirement age is projected to be larger for children of the baby boom generation than for their parents (41 percent, compared with 33 percent), a large share of both cohorts is comprised of married women. Although for Social Security purposes using data for couples is just as important for previously married individuals, in this article we focus on its impact for the larger group of currently married women.

Table 1.—Projected marital status of women at retirement, by birth cohort

[In percent]

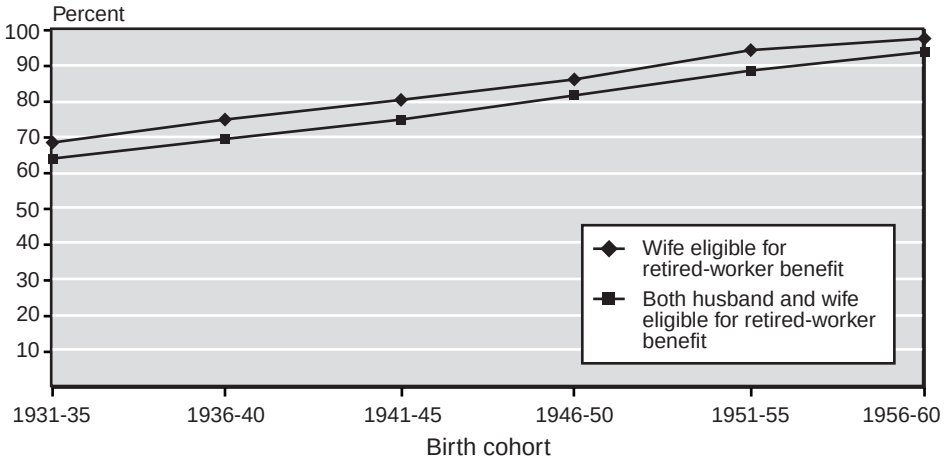
| Marital status | 1931–35 | 1936–40 | 1941–45 | 1946–50 | 1951–55 | 1956–60 |
|---|---|---|---|---|---|---|
| Total | 100 | 100 | 100 | 100 | 100 | 100 |
| Married | 67 | 61 | 62 | 60 | 60 | 59 |
| Widowed | 19 | 19 | 17 | 15 | 15 | 15 |
| Divorced | 11 | 16 | 17 | 19 | 19 | 19 |
| Never married | 3 | 5 | 5 | 6 | 7 | 7 |

Note: Totals may not sum to exactly 100 percent due to rounding.

Source: Authors' calculations using MINT data.

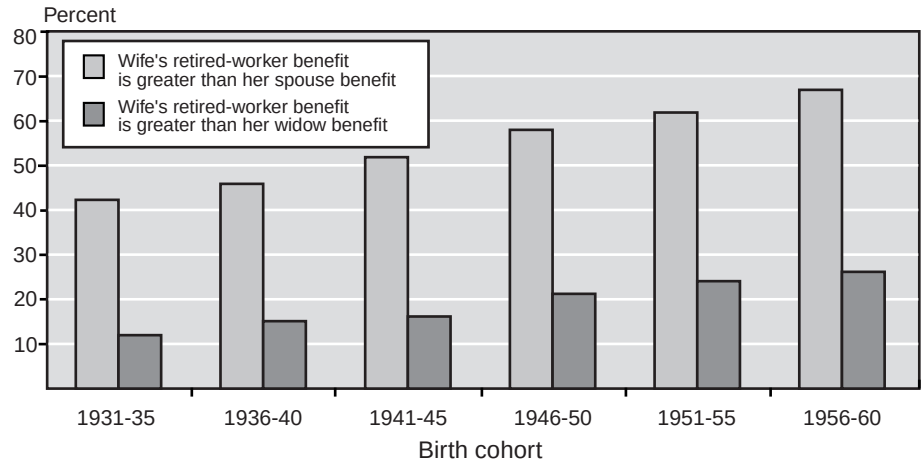
Most married men have average lifetime earnings that make them eligible for retired-worker benefits. However, until recently, most married women were not eligible for retired-worker benefits because they had no or too little earnings. Their retirement benefits were based only on their husbands' lifetime average earnings. Analyses of individual data would suggest that these women receive no retirement benefits at all and their economic well-being in retirement would be greatly underestimated. Using MINT data, chart 1 shows the projected percentage of married women and their husbands who will be eligible for retired-worker benefits at retirement for 5-year birth cohorts born 1931 through 1960. These are individuals whose PIAs are greater than zero. As shown, the growth in earnings among more recent cohorts of married women results in dramatic projected increases in retired-worker eligibility, from 68 percent of the 1931–35 cohort to 97 percent of the 1956–60 cohort. For some couples, both the husband and wife are eligible to receive retired-worker benefits based on their own lifetime earnings.

Chart 1.—Projected percentage of married women and their husbands eligible for retired-worker benefits at retirement, by birth cohort




Source: Authors' calculations using MINT data.

Chart 2.—Projected percentage of married women who will receive only retired-worker benefits at retirement, by birth cohort




Source: Authors' calculations using MINT data.

The percentage of both spouses eligible is also projected to increase among more recent birth cohorts, from 63 percent of the 1931–35 cohort to 93 percent of the 1956–60 cohort. As chart 1 shows, more and more married women are projected to become eligible for retired-worker benefits.

Despite married women's increased labor force participation and earnings that entitle them to retired-worker benefits, because of the dual-entitlement rule, many two-earner couples are paid as if they were one-earner couples. To receive only retired-worker benefits, wives' PIAs based on their own earnings must be more than half of their husbands' PIAs, and widows' PIAs based on their own earnings must be greater than their husbands' PIAs. However, because most wives have lower lifetime earnings than their husbands, the dual entitlement rules imply that most wives and widows will receive Social Security benefits no higher than they would have received if they had not worked at all: their retirement benefit amounts will be based on their husbands' lifetime average earnings only.[1] Analyses using individual data would show these women receiving their own retired-worker benefits and not the higher auxiliary benefits, and would underestimate their economic well-being in retirement.

Chart 2 identifies the percentage of couples in which MINT data project the wife to have earnings high enough that she will receive only retired-worker benefits at retirement (her own PIA is greater than one-half of her spouse's PIA) or she will receive only retired-worker benefits when widowed (her own PIA is greater than her spouse's PIA). MINT data project a dramatic increase of about 50 percent in the proportion of wives receiving only retired-worker benefits as spouses: from 42 percent of the 1931–35 cohort to 67 percent of the 1955–60 cohort. However, MINT data project an even larger increase—more than double—in the share of wives receiving only retired-worker benefits as widows: from 12 percent of the 1931–35 cohort to 26 percent of the 1955–60 cohort. Despite projected increases in the share of married women whose retirement benefits will be based on their own average lifetime earnings only, a large share of married women will still receive benefits as widows based only on their husbands' average lifetime earnings.

The first two charts point out one reason for using data for couples over individual data: most women's retirement benefits are based in part or entirely on their husbands' lifetime earnings.[2] Chart 3 and table 1 point out a second reason:

average earnings do not capture the variability of actual earnings and the heterogeneity of actual life experiences. Analyses of benefits for couples that are computed using average earnings ignore observed patterns in marriage, divorce, labor force participation, and death.[3] This can be illustrated by examining the correlation between the lifetime earnings of husbands and wives. A negative correlation coefficient would indicate that it is typical for higher earning men to be married to lower earning women, and vice versa. Karoly and Burtless (1995) report a small negative correlation in 1969 for the earnings of husbands and wives. If, on the other hand, spouse lifetime earnings are positively correlated, then it would mean that lower earning women are married to lower earning men, and vice versa. Burtless (1998) reports a positive correlation in 1994 between the earnings of husbands and wives. The results of these studies suggest an interdependence between the earnings of husbands and wives that could not be captured by using aggregate data on the average earnings of men and women.

Chart 3 shows the projected relationship between the AIMEs of husbands and wives by the 5-year birth cohorts of wives born between 1931 and 1960. The results indicate that spouse earnings are positively correlated and that this correlation has become stronger over time. For example, the correlation was 0.05 for couples born in the early depression (1931–35), compared with 0.15 for couples born in the late baby boom generation (1956–60).[4] This finding has two implications. First, after controlling for husbands' average lifetime earnings, women in the 1956–60 birth cohort may be less likely than women in the 1931–35 birth cohort to receive spouse and widow benefits. Further, the spouse and widow benefits that women in 1956–60 birth cohort do receive may be lower than those of women in the 1931–35 birth cohort.[5] Second, income inequality among couples may increase as lower (higher) earning women marry lower (higher) earning men.

Table 2 shows the mean projected unreduced Social Security benefit of married women at retirement. The first column depicts one-half of the husband's PIA and represents the unreduced benefit a married woman would receive if her benefit were computed using only her husband's earnings. The second column shows the wife's PIA and represents the unreduced benefit she would receive if her benefit were computed using only her own earnings. Benefits represented in the first two columns of the table are computed using individual data. The third column of the table (labeled benchmark benefit) represents the unreduced benefit of a married woman including any auxiliary benefits that she may be entitled to as a spouse. Computing the benchmark benefit requires using data for couples because it is based on the relative lifetime earnings of both a married woman and her husband.

Table 2.—Mean projected unreduced Social Security benefit of married women at retirement, computed using data for individuals and couples

[1998 dollars]

| Birth cohort | Based on data for individuals | | Based on data for couples—benchmark benefit[3] |
|---|---|---|---|
| | Using husband's earnings[1] | Using wife's earnings[2] | |
| Total..... | $502 | $589 | $719 |
| 1931–35..... | 486 | 416 | 612 |
| 1936–40..... | 498 | 477 | 654 |
| 1941–45..... | 516 | 546 | 703 |
| 1946–50..... | 515 | 617 | 742 |
| 1951–55..... | 507 | 668 | 768 |
| 1956–60..... | 490 | 691 | 770 |

[1] Computed as one-half the husband's PIA, which is based on the husband's earnings.

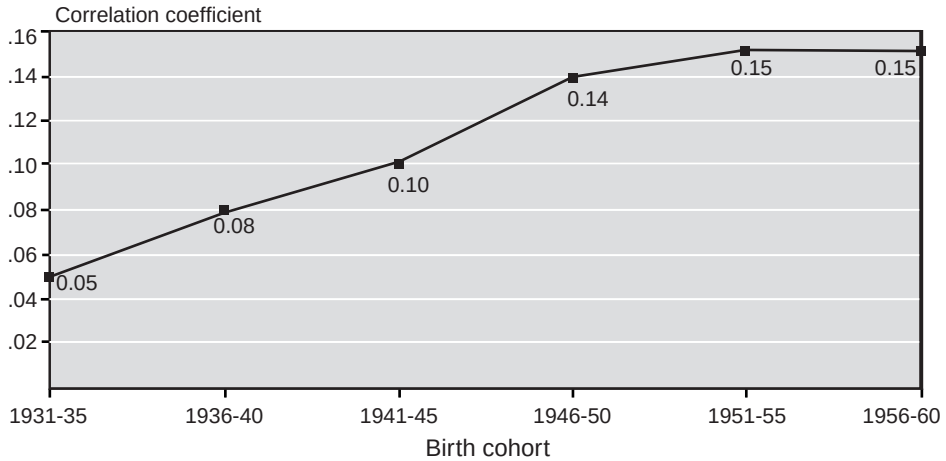
[2] Defined as the wife's PIA, which is based on the wife's earnings.

[3] Defined as the wife's unreduced Social Security benefit, which is based on both the husband's and wife's earnings. This amount is derived by comparing the wife's PIA with her husband's PIA. If the wife's PIA is greater than one-half of her husband's PIA, then the amount of unreduced Social Security benefit she receives is effectively equal to one-half of her husband's PIA.

Source: Authors' calculations using MINT data.

The main point to note about the results in table 2 is that mean benefits based on individual data will be consistently lower than the mean benefits based on data for couples. Note that for the earliest two cohorts (1931–35 and 1936–40) estimates based on the husband's PIA are closer to the wife's benchmark benefit than estimates based on the wife's PIA. For the more recent cohorts, estimates based on the wife's PIA are closer to the wife's benchmark benefit than estimates based on the husband's PIA. These results are consistent with those described earlier in the article, which show that more and more married woman are entitled to benefits based solely on their

Chart 3.—Projected correlation between husbands' and wives' average indexed monthly earnings, by birth cohort




Source: Authors' calculations using MINT data.

own lifetime average earnings. Thus, while data for couples are important for measuring Social Security benefits, it is particularly important for married women in the earlier birth cohorts.

## *Using MINT Data to Evaluate a Proposed Policy Change*

In this section we establish the importance of using data for couples rather than individual data by examining the impact of increasing the computation period that Social Security benefits are based on from 35 years (as under current law) to 40 years. (A caveat to this analysis is that behavioral responses to this policy change are not incorporated.) Table 3 describes the projected impact of this proposal on the Social Security benefits of married women. Columns (1) and (3) represent the average wife's projected PIA based on her own 35 and 40 years of earnings, respectively. The numbers in these two columns are computed using individual data. Columns (2) and (4) represent the average wife's projected unreduced benefit (based on her and her husband's 35 and 40 years of earnings). The numbers in these columns are computed using data for couples.

The first point to note about table 3 is the finding that the ratio of the wife's PIA to her unreduced benefit is correlated with her birth cohort: it is lower for earlier birth cohorts and higher for more recent ones.[6] This result supports the earlier finding that an increasing number of wives are projected to receive benefits based solely on their own average lifetime earnings.

The second point to note is that the impact of the proposal appears greater when using individual data than when using data for couples. To see this, look to the last two columns of the table. These columns represent the percent reduction in the average wife's PIA and in her unreduced benefit when the benefit computation period is increased from 35 to 40 years. Using the PIA (based on individual data) instead of the unreduced benefit (based on data for couples), we would consistently overestimate the impact that the proposal would have on benefit amounts. Benefits are projected to decline by 5–7 percent using the wife's PIA, but by only 4–6 percent using her unreduced benefit. The bias created by using the wife's PIA is larger for older cohorts than it is for younger cohorts. In the oldest cohort, the proposal is projected to reduce the average wife's PIA by 7 percent, but her unreduced benefit by only 6 percent. In the youngest cohort, the proposal is projected to reduce the average wife's PIA by 5 percent, but her unreduced benefit by only 4 percent. This finding makes sense because women in the oldest cohort are more likely than women in the most recent cohort to be entitled to benefits that are based in part or entirely on their husbands' average lifetime earnings. Analyses using only wives' PIAs, unlike analyses using their unreduced benefits, underestimate retirement income because they exclude auxiliary benefits that are based on husbands' average lifetime earnings.

## *Conclusion*

Data for couples play a critical role in estimating Social Security benefits because of the auxiliary benefits paid to spouses, ex-spouses, and widow(er)s of entitled workers. While more and more married women are eligible for their own retired-worker benefits, a large number of women continue and are projected to continue to receive auxiliary benefits. Because the receipt of auxiliary benefits is still common, policy analyses of the effects of alternative Social Security policies on retirement income must take into account benefit levels for couples rather than individual worker benefits.

We used MINT data to establish the importance of using data for couples rather than individuals to estimate Social Security benefits. We used data for both individuals and couples to examine the effects of changing the computation period for Social Security benefits to reflect 40 years of lifetime earnings rather than the 35 years required under current law. We found that using individual data overestimated the projected reduction in retirement benefits brought about by the

Table 3.—Projected relationship between married women's PIAs and unreduced benefits, based on computation periods of 35 and 40 years, by birth cohort

[1998 dollars]

| | 35 years | | | 40 years | | | Percent reduction | |
|---|---|---|---|---|---|---|---|---|
| Birth cohort | Mean PIA (1) | Mean unreduced benefit (2) | Ratio (1) / (2) | Mean PIA (3) | Mean unreduced benefit (4) | Ratio (3) / (4) | PIA ((3)–(1) / (1)) | Unreduced benefit ((4)–(2) / (2)) |
| Total | $589 | $719 | 0.82 | $553 | $684 | 0.81 | 6 | 5 |
| 1931–35 | 416 | 612 | .68 | 385 | 577 | .67 | 7 | 6 |
| 1936–40 | 477 | 654 | .73 | 443 | 618 | .72 | 7 | 5 |
| 1941–45 | 546 | 703 | .78 | 509 | 666 | .76 | 7 | 5 |
| 1946–51 | 617 | 742 | .83 | 579 | 706 | .82 | 6 | 5 |
| 1951–55 | 668 | 768 | .87 | 631 | 733 | .86 | 6 | 5 |
| 1956–60 | 691 | 770 | .90 | 654 | 737 | .89 | 5 | 4 |

Source: Authors' calculations using MINT data.

policy change and made the effects on women look more severe than they actually were. We also found that because earlier birth cohorts were more likely than more recent cohorts to receive auxiliary benefits based on their husbands' average lifetime earnings, the bias created by using individual data was projected to be much larger for the earlier cohorts than for the more recent cohorts.

The importance of using data for couples rather than individuals is expected to be just as critical for estimating the impact of proposals to modify current law auxiliary spouse benefits on women's economic well-being in retirement. Consider, for example, the Advisory Council's proposal to reduce spouse benefits to 33 percent of the husband's (wife's) benefit and to increase widow(er) benefits to 75 percent of the couple's benefit.

Earlier in this article, we noted that data for couples are just as important for calculating the retirement benefits of previously married individuals as they are for those who are currently married. For individuals who are divorced or widowed at retirement, their Social Security benefits are based on their own earnings history, as well as the earnings histories of each of their previous spouses. Future work using data for individuals and data for couples to estimate Social Security benefits will focus on divorced and widowed women who are most susceptible to poverty in retirement.

## *Notes*

[1] Note that although these women receive retired-worker benefits, their benefit amounts are supplemented up to the amount of their auxiliary benefits (one-half of their husbands' PIAs). Also note that dually entitled individuals may still qualify for their disabled-worker benefits based on their own lifetime average earnings.

[2] A woman's spouse benefit is based entirely on her husband's lifetime earnings, while her dual entitlement benefit is based in part on her husband's lifetime earnings. In the 1931–35 birth cohort, 29 percent of married women are projected to receive only spouse benefits and 26 percent of married women are projected to be dually entitled (3 percent are projected to be nonbeneficiaries). In the 1956–60 birth cohort, 2 percent of married women are projected to receive only spouse benefits, and 31 percent of married women are projected to be dually entitled (less than 1 percent are projected to be nonbeneficiaries).

[3] Divorce has become increasingly common, and any selectivity in divorce would affect the earnings patterns and subsequent Social Security benefits of couples. The U.S. divorce rate sharply increased between the 1960s and early 1970s, fell slightly, and then leveled off at a relatively high level in the mid-1980s (DaVanzo and Rahman 1993). Using recent rates, analysts project that as many as two-thirds, but at least two-fifths of first marriages eventually end in divorce (Martin and Bumpass 1989; Bumpass 1990; Norton and Miller 1992; Schoen and Weinick 1993).

[4] According to marriage models, there is a substantial correlation between the education levels of spouses (Mare 1991; Qian 1998). If annual hours of work were independent of husbands' earnings or wives' education, then spousal earnings would be uncorrelated. However, in the decades of the 1950s, 1960s, and early 1970s, spousal earnings were negatively correlated. The wives of high earning men did not work as much as other wives. When there were young children in the household, these women could afford to stay home, and they did (Bowen and Finegan 1969; Gunderson 1989; Goldin 1990). This explains the low correlation observed in our data for lifetime earnings of couples from the early depression. In the decades of the 1980s and 1990s, more highly educated women were more likely to work, irrespective of their husbands' earnings. Even the majority of mothers with young children worked (U.S. Bureau of the Census, table 627). This explains the increased positive correlation observed in our data for lifetime earnings of couples over time.

[5] The receipt of spouse and widow benefits depends upon a within couple comparison of a husband's and wife's PIAs. If a wife's PIA is greater than one-half her husband's PIA, or a widow's PIA is greater than her deceased husband's PIA, she is not entitled to spouse or widow benefits. We speculate that the increased correlations observed in chart 3 suggest that fewer women in recent birth cohorts than in earlier cohorts may be entitled to spouse and widow benefits because higher earning women will be more likely to marry higher earning men. This is the pattern observed in chart 2. We also speculate that for women who do receive spouse and widow benefits, benefits may be lower for recent birth cohorts than for earlier cohorts because lower earning women will be more likely to marry lower earning men.

[6] Compare a projected 0.68 for the 1931–35 birth cohort to a projected 0.90 for the 1956–60 birth cohort for benefits based on 35 computation years. The findings are similar for benefits based on 40 computation years.

## *Bibliography*


Bowen, William G. and T. Aldrich Finegan. 1969. *The Economics of Labor Force Participation*. Princeton, NJ: Princeton University Press.

Bumpass, Larry L. 1990. "What's Happening to the Family? Interactions Between Demographic and Institutional Change." Population Association of America, 1990 Presidential Address. *Demography*, Vol. 27, No. 4, pp. 483–498.

Burtless, Gary. 1998. "Effect of Growing Wage Disparities and Family Composition Shifts on the Distribution of U.S. Income." Paper presented at the European Economic Association Meeting. Berlin.

DaVanzo, Julie and M. Omar Rahman. 1993. "American Families: Trends and Correlates." *Population Index*, Vol. 59, No. 3, pp. 350–386.

Goldin, Claudia. 1990. *Understanding the Gender Gap: An Economic History of American Women.* New York: Oxford University Press.

Gunderson, Morley. 1989. "Male-Female Wage Differentials and Policy Responses." *Journal of Economic Literature*, Vol. 27, No. 1, pp. 46–72.

Gustman, Alan L. and Thomas J. Steinmeier. 1998. "Effects of Pensions on Savings: Analysis with Data from the Health and Retirement Study." *NBER Working Paper No. W6681*. Cambridge, MA: National Bureau of Economic Research.

Karoly, Lynn and Gary Burtless. 1995. "Demographic Change, Rising Earnings Inequality and the Distribution of Personal Well-Being, 1959-1989." *Demography*, Vol. 32, No. 3, pp. 379–405.

Kingson, Eric R. and R. O'Grady-LeShane. 1993. "The Effects of Caregiving on Women's Social Security Benefits." *The Gerontologist*, Vol. 33, No. 2, pp. 230–239.

Mare, Robert D. 1991. "Five Decades of Educational Assortative Mating." *American Sociological Review*, Vol. 56, No. 1, pp. 15–32.

Martin, Teresa Castro and Larry L. Bumpass. 1989. "Recent Trends in Marital Disruption." *Demography*, Vol. 26, No. 1, pp. 37–51.

Norton, Arthur J. and Louisa F. Miller. 1992. "Marriage, Divorce, and Remarriage in the 1990's." *Current Population Reports: Special Studies* (Series P–23, No. 180). Washington, DC: U.S. Bureau of the Census, Department of Commerce.

Panis, Constantijn, and Lee Lillard. 1999. "Near Term Model Development." Final Report, SSA Contract No. 600–96–27335. Santa Monica, CA: RAND Corporation.

Qian, Zhenchao. 1998. "Changes in Assortative Mating: The Impact of Age and Education, 1970–1990." *Demography*, Vol. 35, No. 3, pp. 279–292.

Sandell, Steven H. and Howard M. Iams. 1996. "Caregiving and Future Social Security Benefits: A Reply to O'Grady-LeShane and Kingson." *The Gerontologist*, Vol. 36, No. 6, pp. 814–815.

Sandell, Steven H. and Howard M. Iams. 1994. "Caregiving and Women's Social Security Benefits: A Comment on Kingson and O'Grady-LeShane." *The Gerontologist*, Vol. 34, No. 5, pp. 680–684.

Schoen, Robert and Robin M. Weinick. 1993. "The Slowing Metabolism of Marriage: Figures from the 1988 U.S. Marital Status Life Tables." *Demography*, Vol. 30, No. 4, pp. 737–746.

Toder, Eric and others. 1999. "Modeling Income in the Near Term—Projections of Retirement Income Through 2020 for the 1931–1960 Birth Cohorts." Final Report, SSA Contract No. 600–96–27332. Washington, DC: The Urban Institute.

U.S. Bureau of the Census. 1996. *Statistical Abstract of the United States 1996*. Washington, DC: Department of Commerce.