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How Will Boomers Fare at Retirement?

by
Barbara Butrica
Cori Uccello

John R. Gist
Project Manager

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AARP, 601 E Street, NW., Washington, DC 20049
<http://www.aarp.org/ppi>

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Foreword

Baby boomers have often been characterized as the profligate offspring of the depression-era savers now known as the “greatest generation.” Newspaper headlines frequently warn that aging boomers are headed for financial catastrophe in retirement because they are not saving enough. We also see stories, albeit less frequently, that boomers will be the richest generation in history. Some have argued that boomers will inherit anywhere from \$10 trillion to \$40 trillion in wealth, which yields between \$132,000 *per boomer* (which is more than the median boomer *household* had accumulated by 2001) and \$560,000 per boomer. Can these seemingly conflicting stories be reconciled?

Divining the retirement fate of baby boomers has become a regular preoccupation of journalists and pundits, who know that stories about boomers are sure to capture the rapt attention of that most educated, numerous, and (some would say) self-absorbed generation in American history. But the answer to the question of the adequacy of boomer retirement preparation is an elusive one. The preponderance of the punditry seems to suggest a pessimistic conclusion, but some of the best work on the subject is more optimistic.

Part of the difficulty in projecting boomers’ retirement security is that the youngest boomers are still at least 20 years from retirement, so that projecting their retirement preparation is somewhat hazardous, while the oldest boomers are a mere four years from Social Security early retirement eligibility. An added difficulty is that boomers and even near-retirees show signs of staying in the work force longer, which can strongly influence retirement calculations. In addition, few data sources permit the estimation of total retirement wealth, because they lack information on one or more components of wealth. In particular, numerous wealth studies omit information about wealth from Social Security or defined benefit (DB) pension plans. Another issue is defining the standard of adequacy. Some have compared boomers’ resources with those of their parents at similar ages, and some have argued that adequacy should relate more to boomers’ own pre-retirement income, not to their parents’ income.

This paper by Barbara Butrica and Cori Uccello of The Urban Institute overcomes many of these problems, and sheds welcome and much-needed new light on the retirement fate of boomers. Using The Urban Institute’s DYNASIM model, the authors project wealth out to age 67 for boomer age cohorts as well as their predecessors. DYNASIM projects *all* forms of retirement wealth—pension, Social Security, and non-pension wealth—to 2050, providing a more comprehensive picture of retirement wealth. The story that Butrica and Uccello tell about boomers’ retirement preparation is a much more nuanced version than is found in journalistic accounts. Although boomers will accumulate more wealth and receive more income than their predecessors, they will not enjoy higher replacement rates. Early boomers will have replacement rates similar to those of their predecessors, while late boomers are less likely to maintain their pre-retirement standard of living. Furthermore, the steady improvement in well-being we have come to expect does not show up in the second half of the boomer generation.

Butrica and Uccello's study provides important new evidence on the adequacy of boomers' retirement resources. Their findings serve as a cautionary note that the complete story of boomer retirement security is considerably more complex than has been portrayed.

John R. Gist
Associate Director
AARP Public Policy Institute

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EXECUTIVE SUMMARY

Background

The economic well-being of future retirees in the baby boom cohort—those born between 1946 and 1964—is of particular concern to policy-makers. The oldest boomers will be eligible for Social Security retirement benefits in fewer than 10 years, and even the youngest boomers are approaching middle age. Yet there is still much speculation on how this birth cohort will fare in retirement.

Purpose

The aim of this study is to provide new evidence on the adequacy of boomers' retirement resources. Using the Urban Institute's Dynamic Simulation of Income Model (DYNASIM), the study addresses the following questions:

- What are the projected levels of wealth at retirement for current and future retirees?
- What are the projected levels of income at retirement for current and future retirees?
- What replacement rates will boomers be able to achieve, and will poverty rates among boomers increase or decrease relative to earlier retiree cohorts?

Methodology

In this study, we use The Urban Institute's DYNASIM model to project wealth at age 67 and compare the overall levels, composition, and distribution of wealth among the boomer cohorts with those of retirees from earlier cohorts. Then we evaluate the adequacy of retirement resources by estimating the income that could be generated from wealth at retirement. We project replacement rates and poverty rates among boomers and compare them with those of retirees from earlier cohorts. Finally, we examine the extent to which demographic and labor force changes may have contributed to any projected changes in economic well-being in retirement.

The DYNASIM model starts with a self-weighting sample of about 100,000 individuals from the 1990 to 1993 Survey of Income and Program Participation. DYNASIM ages this starting sample in yearly increments, to 2050, using parameters estimated from longitudinal data sources. The model integrates all of the important trends and differentials in life course processes, including birth, death, schooling, leaving home, first marriage, remarriage, divorce, disability, work, and earnings. DYNASIM also simulates pension, Social Security, and non-pension wealth. Using these projections we can construct a comprehensive measure of wealth in retirement.

DYNASIM is a useful tool for gaining insights into what we expect to happen to the retirement incomes of future retirees. It projects Social Security benefits and other important sources of income in retirement. DYNASIM also accounts for major changes in the growth of

economy-wide real earnings, the distribution of earnings both between and within birth cohorts, and the composition of the retiree population. All of these factors will affect the retirement income of future retirees.

Principal Findings

Projected Wealth at Age 67. According to DYNASIM projections, boomers will amass more wealth in real terms (2003 dollars) at retirement than will the previous two birth cohorts. Average household wealth at age 67 will grow from \$558,000 among current retirees to \$703,000 among today's near-retirees to more than \$800,000 among boomers. Interestingly, late boomers will experience a dip in average wealth relative to early boomers. Early boomers are expected to accumulate wealth of \$859,000 and late boomers only \$839,000. Nevertheless, even the late boomers will accumulate more wealth than will the cohorts of current and near-retirees.

Total retirement wealth (including Social Security wealth, defined benefit [DB] pension wealth, and retirement account wealth) increases steadily across all cohorts, but different trends emerge among the different components of retirement wealth. Like average total retirement wealth, average Social Security wealth increases steadily across cohorts. But average DB wealth decreases, from \$90,000 among the cohort of current retirees to \$62,000 among the late boomers. (DB wealth among women increases, however, reflecting their increasing DB coverage and labor force participation.) The increase in retirement account wealth more than offsets the decline in DB wealth. Average retirement account wealth (including defined contribution [DC] retirement plans, IRAs, and Keoghs) increases dramatically, from \$34,000 among current retirees to \$140,000 among late boomers.

Non-retirement wealth (including financial wealth and housing wealth) increases by cohort, but then decreases among the late boomers. The drop in non-retirement wealth among late boomers relative to early boomers is concentrated among married couples and in large part reflects shifting demographics. Among married men, late boomers are more likely to belong to a racial or ethnic minority than early boomers and are less likely to have a college degree. Both of these shifts contribute to lower wealth among the late boomers. In addition, late cohorts are more likely to hold non-collateralized debt, such as credit card debt or student loans. The drop in housing wealth likely reflects many factors, including declining family size and other demographic shifts among future cohorts that will reduce demand, and increases in the prevalence of 30-year mortgages and home equity loans, which slow the accrual of housing equity. Furthermore, earlier cohorts enjoyed rapid increases in housing values in the 1960s and 1970s that later cohorts did not experience.

Median wealth, which is lower than average wealth, exhibits similar trends by wealth source. The one exception is that while the late boomer cohort experiences a dip in average wealth compared with the early boomer cohort, no such dip occurs among median wealth holders. Although the late boomers do experience a drop in non-retirement wealth, this drop is more than offset by the increase in retirement wealth. Because Social Security wealth constitutes a larger share of total wealth among median wealth holders, increases in Social Security wealth by cohort are more important among this group, and they can offset drops in other wealth sources.

Projected Income at Age 67. Consistent with trends in wealth at retirement, income at retirement is projected to be higher for future retirees than for current retirees. Projected household income at age 67 will increase from \$44,000 among current retirees to \$65,000 among early and late boomers. Similar to the patterns in wealth, non-retirement income is expected to decline between the early and late baby boom cohorts, but increases in retirement income are expected to offset decreases in non-retirement income.

The importance of particular income sources is projected to change over time. For instance, the share of total income at age 67 from household earnings is projected to increase among the baby boom cohorts, reflecting a greater likelihood of working at that age among women. In addition, the share of total income from retirement accounts is projected to increase among the baby boom cohorts. Although the share of DB pension income is projected to decrease, this loss is more than offset by an increase in income from DC retirement plans.

Projected Adequacy of Retirement Income. Early boomers are expected to achieve replacement rates that are very similar to those of current retirees. In contrast, late boomers are expected to have lower replacement rates than current retirees, despite having higher real incomes. Median replacement rates, computed as the ratio of per capita household income at age 67 to average per capita shared earnings between ages 50 and 54, are projected to be between 86 and 88 percent (i.e., per capita household income at age 67 will replace 86 to 88 percent of average per capita shared earnings) for current retirees, near-retirees, and early boomers. Replacement rates are expected to decrease to 80 percent for late boomers. However, the replacement rate calculation included any household earnings plus SSI benefits in the numerator of the ratio, and adding these two items makes a substantial difference for both boomers and for current and near-retirees. Without earnings and SSI added, replacement rates were projected to be 71 and 67 for current and near-retirees, respectively. For early and late boomers they are projected to be 68 and 63. Thus, the patterns are the same, but the replacement rates without earnings and SSI benefits are substantially lower. With some exceptions, these patterns persist for various subgroups. Because of the projected deterioration in replacement rates over time, late boomer retirees will be less likely than current retirees to maintain their pre-retirement living standards.

In contrast to replacement rates, poverty rates assess well-being on a more absolute scale. The projected increase in retirement incomes between current retirees and baby boom cohorts will reduce poverty rates for most men and women. Overall, projected poverty rates at age 67 will decrease from 8 percent among current retirees, to 5 percent among today's near-retirees, to 4 percent among early boomers, and to 2 percent among late boomers. This decline in poverty largely reflects the effects of higher real earnings on real Social Security benefits and other retirement income for baby boom retirees relative to earlier retirees. (In contrast to the Census income measure that includes only money income, DYNASIM poverty rates are calculated using a more comprehensive measure of income that includes annuitized income from financial assets. Because this more comprehensive income measure better gauges a household's ability to meet consumption needs, DYNASIM income projections are higher and poverty rates are lower than those calculated using the Census income measure.)

Nearly all demographic and economic subgroups will experience declines in poverty rates over time, and subgroups with the highest poverty rates among the cohort of current retirees enjoy the largest reductions. Nevertheless, certain boomer subgroups will remain especially vulnerable. For instance, never-married women in the boomer cohorts will have poverty rates between three and four times the average rate for their cohort, and divorced women will have rates more than twice the average. To a lesser extent, never-married men will also have higher-than-average poverty rates. In addition, blacks, Hispanics, individuals without high school degrees, and those with fewer than 20 years in the labor force are projected to have higher poverty rates than average. Because of the correlation between pre-retirement earnings and post-retirement earnings, retirees with the lowest lifetime earnings also have higher-than-average poverty rates.

We also examine poverty rates under alternative scenarios. Reducing current and future Social Security benefits by 13 percent, an amount that would keep the trust funds in balance over the next 75 years, would increase adjusted poverty rates only slightly. In contrast, using a threshold of 200 percent of the federal poverty level as a proxy for increased health costs and other potential consumption needs of the elderly could quadruple the share of retirees unable to meet their consumption needs.

Finally, if a goal of policy is to prevent retirees from falling behind relative to average living standards of workers, then it is also important to assess retirees' incomes relative to workers' incomes. Using this measure of retirement well-being, we find that retirees are far more likely to have per capita incomes less than 45 percent of the national average wage (the definition of low-wage workers used by Social Security actuaries) than they are to have incomes below the poverty threshold. Unlike poverty rates, which are projected to decline over time, the share of retirees with per capita incomes less than 45 percent of the national average wage is projected to remain at about one-third.

Conclusion

As the boomer cohorts move toward retirement, it is increasingly important to assess their prospects for retirement security. This study uses the Urban Institute's DYNASIM model to project wealth and income at retirement for current and future retirees. The results point to some signs for optimism. The boomer cohorts are expected to accumulate more wealth and to receive more income in real terms at retirement than will previous generations. However, relative to early boomers, late boomers will accumulate less wealth and receive no more income at retirement. Although demographic shifts account for much of the decline among late boomers, projected declines in financial wealth could also result in part from decreased saving among late boomers.

The news on whether the increased income and wealth at retirement among boomers translates to better well-being in retirement is also somewhat mixed. On the one hand, well-being in retirement relative to well-being during working years, measured by replacement rates, is expected to increase only marginally among early boomers and to decline for late boomers. Although their real incomes will be higher than those of earlier cohorts, boomers will not achieve

higher replacement rates in retirement than will current retirees. In fact, late boomers will be less likely than current retirees to maintain their pre-retirement standard of living.

On the other hand, poverty rates are projected to decline substantially over time, in large part because of the effects of higher earnings on real Social Security benefits and other retirement income and the fact that poverty thresholds are not adjusted to reflect real-wage increases over time. Nevertheless, certain boomer subgroups will remain especially vulnerable, including never-married and divorced women, blacks, high school dropouts, and those with a weak labor force attachment. Furthermore, the share of retirees with per capita incomes less than 45 percent of the national average wage is projected to remain relatively constant over time, suggesting no improvements in well-being of retirees compared with that of workers.

In other words, our conclusions differ depending on whether economic well-being is assessed on an absolute or a relative basis. In absolute terms, measured by real household incomes and poverty rates, boomers will be better off than current retirees. But in relative terms (e.g., post-retirement income relative to pre-retirement income and relative to workers' incomes), boomers will be no better off or in some cases worse off than current retirees.

Our findings are more optimistic than those of some other studies that have assessed the adequacy of retirement savings. A key difference between DYNASIM projections and other estimates is that DYNASIM projects a broad measure of income that includes not only Social Security and private pension income but also income from earnings and annuitized income from financial assets. This more comprehensive measure better gauges the household resources available to meet retirement consumption needs. Even with this more comprehensive income measure, though, our results suggest that boomers, especially those at the tail, need to increase their savings or work longer if they desire to maintain their real living standards. This additional savings might not be as much as earlier studies suggest, however.

I. INTRODUCTION

The economic well-being of future retirees in the baby boom cohort—those born between 1946 and 1964—is of particular concern to policy-makers. A number of changes undoubtedly will affect boomer retirees. Boomers and current retirees grew up in very different eras. The boomers' era has seen considerable changes in marriage, work and earnings, and savings patterns. These changing trends have been accompanied by a different economic environment and different retirement policies, including a shift in the types of employment-based pension plans. And policy-makers have been considering changes to the Social Security program, given projections that the Social Security trust funds will be exhausted by 2042 (Board of Trustees 2003).

The oldest boomers will be eligible for Social Security retirement benefits in less than 10 years, and even the youngest boomers are approaching middle age. Yet there is still much speculation on how this birth cohort will fare in retirement. Recent newspaper headlines warning of “Boomers Short on Savings” and “A Lost Retirement Dream for Boomers?” cite research pointing to inadequate savings among boomers (Bloomberg News 2003, Crenshaw 2003). At the same time, other studies come to more optimistic conclusions and suggest that boomers will fare better at retirement than will earlier generations and are on track to maintain their pre-retirement living standards.

In this project, we provide new evidence on the adequacy of boomers' retirement resources at age 67, the age by which most individuals will have retired. We first project retirement wealth and income of the boomer cohorts, and then assess their prospects for economic well-being in retirement. Unlike previous studies that typically assess adequacy based on a single measure, we evaluate adequacy based on several measures, including poverty rates, replacement rates, and intergenerational comparisons. Rather than relying solely on savings accumulated to date, we project retirement resources to age 67 including additional savings through defined benefit (DB) pension plans, retirement accounts, Social Security, and non-retirement savings. In addition, we project other income resources at age 67 such as earnings, Supplemental Security Income (SSI), and co-resident income. As a result, this analysis provides a more complete assessment of how boomers will fare at retirement.

In our analysis, we project the major sources of retirement wealth and income at age 67 using the Urban Institute's Dynamic Simulation of Income Model (DYNASIM). DYNASIM starts with data from the 1990 to 1993 Survey of Income and Program Participation (SIPP). It then projects retirement wealth and income from the base SIPP year through 2050. DYNASIM is ideal for this analysis because it directly measures the experiences of survey respondents as of the early 1990s—representing the first third to the first half of the lives of the baby boom cohort—and statistically projects their income and characteristics into the future, adjusting for expected demographic and socioeconomic changes.

In the following section, we provide background information on some of the salient historical trends likely to influence the demographic characteristics and well-being of the future retired population, and examine the previous research that assesses retirement savings adequacy. Section III outlines our methodology and describes how DYNASIM projects demographic events, wealth, and income. We present data on the characteristics of current and future retirees

in Section IV. Sections V and VI report DYNASIM projections of wealth at age 67 and income at age 67, respectively. In Section VII, we explore the adequacy of retirement income by considering replacement rate and poverty rate projections. We present our conclusions in Section VIII.

II. BACKGROUND AND PREVIOUS RESEARCH

The share of elderly living in poverty has declined dramatically over the last half of the twentieth century, both in absolute terms and compared with working-age adults. In 1959, more than one in three adults ages 65 and older had an income below the poverty level, compared with fewer than one in five adults ages 18 to 64 (U.S. Census Bureau 2003). Since that time, all adults, but especially elderly adults, have enjoyed significant reductions in poverty rates, and since the mid-1990s, poverty rates for the two groups have been nearly the same. In 2002, poverty rates among elderly and working age adults were 10.4 percent and 10.6 percent, respectively.

Nevertheless, poverty rates among certain segments of the elderly population, such as women and non-married seniors, remain high (U.S. Social Security Administration [SSA] 2002b, table 8.1). In 2000, 12 percent of elderly women were poor, compared with 8 percent of men. The differences in poverty rates by marital status are even larger: non-married elderly adults have poverty rates three to five times as high as those who are married. For instance, about 5 percent of married seniors are poor, compared with 16 percent of widow(er)s, 17 percent of divorced seniors, and 26 percent of never-married seniors.

Shifts in marital status trends over the past several decades could affect retirement well-being. Individuals are marrying later if at all (Saluter 1996), divorcing more frequently (Bumpass 1990), and remarrying less frequently (Norton and Miller 1992). These trends, combined with decreasing death rates, suggest that future retirees are more likely to be never married or divorced and less likely to be married or widowed. As a result, if differences in poverty rates by marital status continue, overall poverty rates among the elderly could increase among future retirees.

Trends in labor force participation and earnings could potentially offset increases in poverty rates arising as a result of marital status trends, at least among women. Between 1950 and 2002, labor force participation rates for working-age women nearly doubled to 72 percent, but actually decreased by 8 percent for men, down to 87 percent (U.S. Bureau of Labor Statistics [BLS] 2003). Married women in particular experienced the largest gains in labor force participation during this period (U.S. Census Bureau 2001, No. 576). As women have increased their participation in the labor market, their earnings have also increased. Since at least 1940, women's median earnings for wage- and salary-earning workers have increased steadily (SSA 2002a, table 4.B3). For instance, women's median earnings (in 2002 dollars) rose from \$5,900 in 1940 to \$17,100 in 1999. In contrast, men's median earnings peaked in 1970 at \$27,800 and since then have fluctuated between about \$24,000 and \$27,000.

Recent trends in work and earnings patterns will affect both private pensions and Social Security benefits of future retirees, especially among women. Because recent cohorts of women

have higher labor force participation rates, they are more likely than earlier cohorts to receive pension income and Social Security retirement benefits based on their own earnings. Although the narrowing gap between men's and women's earnings could reduce the gender gap in poverty rates for future retirees, a considerable gap remains and female retirees will likely continue to be economically vulnerable.

Recent shifts in pension plan benefit designs may also affect retirement well-being. Although the share of workers of all ages with pension coverage on the current job has remained fairly steady over the past 20 years at about 45 percent (Copeland 2002), the type of coverage has changed dramatically. Defined benefit (DB) coverage has eroded over time and defined contribution (DC) plans have emerged as the dominant type of retirement plan. For example, from 1988 to 1997, the share of full-time employees in medium and large private establishments participating in DB plans fell from 70 percent to 50 percent, while the share participating in DC plans increased from 52 percent to 57 percent (BLS 1989, 1999). Moreover, among active pension plan participants, the share whose primary plan is a DC plan has increased from 26 percent in 1988 to 63 percent in 1998 (Copeland 2002).

In DB plans, the employer promises to pay a specific benefit upon retirement, typically expressed as a multiple of earnings and years of service. As a result, DB plans are usually most beneficial to workers who remain with the same employer for many years. In DC plans, the employer makes contributions to a tax-deferred account each year, rather than promising to pay a specific retirement benefit. The accumulation of these contributions, along with any employee contributions and investment income, is available at retirement, typically as either an annuity or a lump sum. DC accounts tend to grow more evenly over a worker's career than pension wealth in DB plans, and balances in DC accounts can continue to grow after participants leave the original employer. As a result, the penalty for changing jobs is much lower in DC plans, making these plans more attractive to an increasingly mobile workforce. Unlike DB plans in which the employer bears the investment risk, however, workers bear the investment risk in DC plans. Retirement benefits from DC plans depend not only on the level of contributions to the plan, but also on the returns they earn. Downturns in the stock market or prolonged periods of unusually low interest rates can substantially reduce DC pension wealth. Therefore it is unclear whether the trend away from DB plans and toward DC plans will be beneficial to the retirement prospects of boomers.

Previous Research Assessing Savings Adequacy and Projecting Retirement Well-Being

The burgeoning literature on household savings includes numerous studies that evaluate household savings adequacy and potential well-being during retirement, and many of these focus on the baby boom generation in particular. Because there is no single standard definition of adequacy, studies use a variety of measures and methods to assess it. A few studies project poverty rates among future retirees. Although poverty rates provide an absolute measure of the share of retirees who would not receive enough income to meet basic consumption needs, they tell only part of the story. Even if retirees receive enough income to avoid poverty, they could nevertheless suffer declines in living standards at retirement. Therefore, other studies use more relative measures of well-being. Some studies, for example, compare income and savings levels among the baby boom cohort with those of earlier generations, thus providing insights as to

whether boomers are expected to do better or worse in retirement than earlier generations. To evaluate whether retirees will be able to maintain their pre-retirement living standards, other studies focus on replacement rates. Somewhat similar to studies focusing on replacement rates, other studies compare savings targets with actual household savings levels to assess whether households are on track to meet retirement needs.

Taken together, the studies that evaluate household savings adequacy and potential retirement well-being often reach differing conclusions, not only because of the differences in how they define adequacy, but also because of different analysis methods and definitions of wealth or income.¹ In general, however, these studies suggest that boomers will fare better at retirement than will earlier generations, and that they are on track not only to meet their basic consumption needs in retirement, but also to maintain their pre-retirement living standards. Nevertheless, several studies predict more dire consequences for boomers in retirement, especially among certain vulnerable subgroups.

Poverty Rates. To evaluate retirement well-being, some studies have projected poverty rates for future retirees and incorporate data on current trends in demographic and economic characteristics. Smith (2002), for example, projects poverty rates using the Urban Institute's DYNASIM model. Through the use of DYNASIM, her analysis not only projects current wealth forward to retirement, but also incorporates additional savings and new contributions to DC plans. She finds that poverty rates among the population at or above the Social Security normal retirement age will fall from 12 percent in 1992 to 6 percent in 2020 and to 3 percent in 2040. Nevertheless, she finds that certain subgroups will remain at risk of poverty, particularly never-married and divorced women and high school dropouts. The improvement in poverty rates over time is largely the result of the assumption of positive real-wage growth. Without real-wage growth, she finds that poverty levels would remain at about 12 percent, and certain vulnerable subgroups (i.e., never-married women, high school dropouts, and the lowest lifetime earners) would have higher poverty rates in 2040 than in 1992.

Wolff (2002) finds less encouraging results using the 1989 and 1998 Survey of Consumer Finances (SCF), although data limitations may explain much of the pessimism. He projects the share of households with expected retirement income less than the federal poverty level. He finds that 66 percent of households ages 47 to 64 in 1998 will fail to achieve a poverty-level income at their expected retirement age, on the basis of current financial holdings only. Including housing wealth reduces this share to 54 percent. Including expected DB pensions and Social Security benefits as well reduces this share considerably more, yet 19 percent of households will still fall short of the federal poverty level. These expected poverty rates based on the 1998 SCF are very similar to those using the 1989 data. The poverty rates are likely overstated, however, as the projection data do not include new savings or contributions to DC plans from the time of the survey to retirement. Moreover, other income sources, such as earnings, SSI benefits, and co-resident income, are also excluded.

¹ See Congressional Budget Office (2003) for a more detailed comparison of many of the previous studies cited in this literature review.

Intergenerational Comparisons. Several studies attempt to assess boomers' retirement prospects by comparing their income and savings levels with those of prior generations. Most of these studies find that boomers compared with prior generations at the same age are doing as well or better, and conclude that warnings of dire prospects for boomers' well-being in retirement may be overstated.

For example, Easterlin, MacDonald, and Macunovich (1990, 1993) examine cohorts born between 1911 and 1965 and find that income at each age increased for each successive cohort, although the rate of improvement slowed somewhat over time. Similarly, Sabelhaus and Manchester (1995) compare the income and consumption of boomers in 1989, when they were ages 25 to 44, with that of their parents' approximate generation when they were the same age in the early 1960s. They find that boomer households averaged incomes ranging from 46 percent higher than those of their parents' generation on a per household basis to 89 percent higher on a per capita basis. Consumption among the boomer cohort also exceeds that of their parents' generation, but only by about half as much as income. Although these findings bode well for the boomer generation, Easterlin et al. (1993) and Sabelhaus and Manchester (1995) each find that those with lower incomes experienced more modest improvements than did those with higher incomes.

Whether higher incomes during working years will boost boomers' prospects for retirement depends in part on whether they use that higher income to accumulate more wealth. In a comparison of savings rates across generations, Bosworth, Burtless, and Sabelhaus (1991) find that boomers ages 25 to 44 saved at only slightly lower rates than did earlier cohorts. In addition, boomers' wealth-to-income ratios generally exceeded those of their parents' generation (Cantor and Yuengert 1994, Sabelhaus and Manchester 1995, Keister and Deeb-Sossa 2001). For instance, late boomers ages 25 to 34 in 1989 had wealth-to-income ratios nearly twice as high as those of their parents' generation at that same age (0.42 versus 0.24; Keister and Deeb-Sossa 2001). But early boomers ages 35 to 44 in 1989 had wealth-to-income ratios about the same as those of their parents at that age (1.23 versus 1.20).

Although previous research generally finds that boomers are doing as well as or better than their parents in terms of income, it is unclear whether these findings will translate into better well-being during retirement. Measures of wealth in these prior studies are incomplete and typically ignore pension and Social Security wealth. In addition, windfalls accruing to certain generations (e.g., through housing market gains) can make intergenerational comparisons difficult to interpret. And finally, being better off relative to their parents does not necessarily imply that the baby boom generation will be well off relative to the federal poverty level or to the standard of living they achieved before retirement.

Replacement Rates. A third set of studies uses a replacement rate approach to assess future retirement preparedness. These studies compare households' pre-retirement income with the income that could be generated by converting their wealth into a hypothetical annuity. Financial planners typically suggest that to maintain their standard of living, retirees need retirement income equal to about 60 to 80 percent of pre-retirement earnings.

Several of these studies focus on cohorts older than the boomers. For example, Gustman and Steinmeier (1999) examine 1992 Health and Retirement Study (HRS) data on households ages 51 to 61. They find that wealth accumulated through 1992 (including housing wealth) would finance, on average, a nominal annuity replacing 86 percent of an individual's projected final earnings or a real annuity replacing 60 percent of projected final earnings. The authors conclude that the results provide little or no evidence of undersaving. Moore and Mitchell (2000), however, also use the 1992 HRS and find that a majority of households nearing retirement would not be able to maintain current levels of consumption in retirement without continued or additional savings. For instance, the median household would need to save an additional 16 percent of annual earnings between 1992 and age 62 to achieve a replacement rate of 69 percent. This saving is in addition to that already assumed to occur through mortgage repayments, interest on net financial assets, and increases in pension values. Delaying retirement to age 65 would reduce required additional savings up to 7 percent of earnings per year.²

Wolff (2002) projects potential replacement rates for a somewhat broader population using 1989 and 1998 SCF data. He finds that 30 percent of households ages 47 to 64 in 1989 would fail to replace even half of their current income, on the basis of current financial holdings, expected DB pensions, and Social Security benefits. In addition, he finds that retirement preparedness has deteriorated over time and that in 1998, 43 percent of households ages 47 to 64 could expect retirement income less than half of current income. As noted above, however, no new savings or contributions to DC plans are included from the time of the survey to retirement. As a result, total wealth at retirement and, in turn, replacement rates are likely understated. The impact of this understatement would fall more on the 1998 sample, when DC plans were a more prominent source of retirement savings. Therefore, the deterioration in replacement rates over time could be overstated.

Engen, Gale, and Uccello (1999) discuss some of the potential problems when assessing retirement savings adequacy on the basis of projected replacement rates. In particular, households are not expected to amass sufficient wealth until just before retirement. Indeed, savings rates are highest for those nearing retirement age (Toder et al. 2002). Therefore, replacement rates that are projected assuming no additional savings may understate retirement preparedness.

Simulation Models of Optimal Savings. Rather than projecting replacement rates, another set of studies assesses savings adequacy by comparing actual household savings data with savings targets produced through simulation models of optimal saving. These savings targets are calculated such that a household would maintain its living standards in retirement. A prominent measure using this approach is the Boomer Retirement Index, created by Bernheim (1992, 1995) to compare households' actual savings with target levels of saving on the basis of family size, education, earnings, age, Social Security, pensions, and other factors. According to this index,

² Note that the Gustman and Steinmeier (1999) results reflect replacement rates that could be achieved on the basis of savings to date. In contrast, the Moore and Mitchell (2000) results reflect replacement rates that could be achieved given additional prescribed savings. Other differences in their methodologies may explain in part their differing conclusions. For instance, Moore and Mitchell measure earning and income streams net of taxes and they present median replacement rates. In contrast, the Gustman and Steinmeier analysis is on a before-tax basis and presents mean replacement rates.

boomers' retirement savings average only about one-third of the level needed to maintain living standards in retirement. But instead of measuring the adequacy of savings by the ratio of total retirement resources (Social Security, pensions, and other assets) to total retirement needs (the wealth necessary on the eve of retirement to maintain pre-retirement living standards), the index measures the ratio of actual saving in financial assets to the total required amount of savings excluding Social Security and pensions. As a result, this measure can vastly understate the overall adequacy of retirement preparations (Engen et al. 1999).³

Bernheim and Scholz (1993) use Bernheim's model to simulate optimal savings levels, but instead of reporting the index, they compare savings targets with actual household data. They conclude that many Americans, especially those without a college education, have inadequate savings. In particular, they find that only about half of non-college-educated households up to age 49 and half of college-educated households regardless of age have wealth accumulations at or above the target levels. Fewer than half of non-college-educated households ages 50 and older meet the targets. Their conclusion holds only if savings targets are interpreted as minimum savings requirements. Engen et al. (1999) argue that because earnings fluctuate on a year-to-year basis, savings targets expressed as the ratio of household wealth to current-year earnings should be interpreted as the median target—that is, about half of households should be expected to have savings that fall below the target. Under this interpretation, the Bernheim and Scholz (1993) results provide evidence of undersaving only for the group of non-college-educated households ages 50 and older. And Engen et al. (1999) contend that, even among this group, if housing wealth were included (Bernheim and Scholz excluded housing wealth from their wealth measure), most, if not the entire, savings shortfall would be eliminated for the median household.

Using the SCF, Engen et al. (1999) create their own simulation model and use the results to assess the savings adequacy of married couples nearing retirement in the 1992 HRS and a broader population. They find that more than half of married households in which the husband works full-time have observed wealth-to-earnings ratios exceeding the target ratio. But among the 5 to 25 percent of households with the lowest ratios, actual measures fall below simulated optimal measures. Because these authors interpret their targets as median levels rather than as minimums, their findings suggest that most households are preparing adequately for retirement, although there is evidence of undersaving among households with the lowest wealth-to-earnings ratios.

One of the only models to incorporate nursing home and home health expenditure needs into retirement projections is the Employee Benefits Research Institute's Education and Research Fund (EBRI-ERF) Retirement Security Projection Model. VanDerhei and Copeland (2003) use this model to compare projected retirement income with retirement expenditures. They project substantial income shortfalls, which would require additional savings of 25 percent of compensation or more among the cohorts currently closest to retirement. Younger cohorts are projected to fare better, with many needing additional savings of 5 to 10 percent of compensation

³ To illustrate, Engen et al. (1999) consider a hypothetical household that needs to accumulate 100 units of wealth. It is expected to accumulate 61 units in Social Security wealth, 30 units in pension wealth, and 3 units in other asset wealth. Therefore, total retirement resources are projected to be 94 percent of its needs. But according to the Boomer Index, the household is saving only 33 percent of what it needs [$3/(100-61-30)$].

or less. These projections likely overstate savings needs, though, because they do not include non-retirement financial savings.

In this project, we build on prior research and provide new evidence on the adequacy of boomers' retirement resources. Although many prior studies have examined retirement savings adequacy, most focus on one of the definitions of adequacy and therefore present an incomplete picture. In addition, many studies make their assessments on the basis of savings to date, and exclude future savings, which can increase considerably as individuals approach retirement. Also, many prior analyses exclude important sources of post-retirement income, including post-retirement earnings.

In contrast, we evaluate adequacy on the basis of several measures, including poverty rates, replacement rates, and intergenerational comparisons. Rather than relying solely on savings accumulated to date, we use the Urban Institute's DYNASIM model to project retirement resources to age 67, including additional savings through DB pension plans, retirement accounts, Social Security, and non-retirement savings. In addition, we project other income resources at age 67 such as earnings, SSI, and co-resident income (income from nonspouse co-resident family members). As a result, this analysis will provide a more complete assessment of how boomers will fare at retirement.

III. METHODS

In this project, we use the Urban Institute's DYNASIM model to project wealth at age 67, the age by which most individuals will have retired, and compare the overall levels, composition, and distribution of wealth among the boomer cohorts with those of retirees from earlier cohorts. Then we evaluate the adequacy of retirement resources by estimating the income that could be generated from wealth at retirement. We calculate both replacement rates and poverty rates for future boomer retirees and compare them with those of retirees from earlier cohorts. We also try to understand how the demographic and labor force changes described above may have contributed to any projected changes in economic well-being in retirement.

When retirement preparedness is examined, it is important to measure wealth as broadly as possible. In particular, aggregate household wealth can be understated dramatically if it includes only financial assets and housing equity, but not pension and Social Security wealth. For instance, pension and Social Security wealth can make up half of the total wealth of households near retirement age (Gustman et al. 1997). Including pension and Social Security wealth is even more crucial when evaluating the well-being of low-income households, who derive even larger shares of their wealth from these sources (Smith 1995, Kennickell and Sundén 1997). Using the Urban Institute's DYNASIM model, we provide a comprehensive measure of retirement resources—one that is based on financial assets, private pensions, Social Security, and housing equity. This allows us not only to measure total wealth at retirement more accurately, but also to examine how each component's share of wealth changes over time.

We project wealth to age 67 and incorporate any additional savings that accrue between the date of the survey and the date of retirement. In addition, the DYNASIM method captures the experiences of survey respondents from such choices as educational attainment, marriage and

divorce, employment, pension participation, and savings. It then statistically projects their characteristics into the future, adjusting for expected demographic and socioeconomic changes. Therefore, our measure of wealth reflects the projected characteristics of respondents at retirement and not just their characteristics at the time of the survey. It is important to note that because DYNASIM ages its sample in yearly increments, it can capture if and how each individual's employment and pension coverage change over time. Calculations of pension wealth incorporate these changes, thereby allowing us to project future pension benefits more realistically than can studies that assume workers continue with their current jobs until retirement.

Description of DYNASIM

To explore issues related to the adequacy of retirement resources among the baby boom generation, we use the latest version of DYNASIM. The model starts with a self-weighting sample of about 100,000 individuals from the 1990 to 1993 SIPP. DYNASIM ages this starting sample in yearly increments to 2050, using parameters estimated from longitudinal data sources. The model integrates many important trends and differentials in life course processes, including birth, death, schooling, leaving home, first marriage, remarriage, divorce, disability, work, and earnings. DYNASIM also simulates pension, Social Security, and non-pension wealth. Using these projected sources we can construct a comprehensive measure of wealth in retirement.

DYNASIM is a useful tool for gaining insights into what we expect to happen to the retirement incomes of future retirees. It projects Social Security benefits and other important sources of income in retirement. DYNASIM also accounts for major changes in the growth of economy-wide real earnings, the distribution of earnings both between and within birth cohorts, and the composition of the retiree population.⁴ All of these factors will affect the retirement income of future retirees.


Appendix table 1 summarizes the basic processes modeled in DYNASIM, along with the data on which the module's parameters are estimated. Favreault et al. (2001) provide a fuller description of each of the modules used in DYNASIM. More details on the modules related to retirement wealth are provided below.

Earnings. Projections of pension and Social Security wealth depend on earnings. DYNASIM has historical individual earnings from 1951 to 1992 and projected earnings from 1993 to 2050. These historical data are based on a statistical match of earnings histories in the 1968–1994 Panel Study of Income Dynamics (PSID) to the 1973 March Current Population Survey (CPS) and the Social Security Administration Summary Earnings Record.⁵ Projected labor supply and earnings are based on a complex set of regressions from the PSID and the National Longitudinal Survey of Youth and calibrated to Social Security Office of the Chief

⁴ DYNASIM uses Social Security Office of the Chief Actuary (OCACT) projections (from the intermediate cost scenario in the 2002 Old-Age, Survivors, and Disability Insurance (OASDI) Trustees Report), based on economic assumptions external to DYNASIM, of mortality and growth in the average economy-wide wage and the consumer price index (CPI).

⁵ Smith, Scheuren, and Berk (2001) show that these earnings histories match up quite well with actual earnings histories that are available on a confidential basis at the Social Security Administration.

Actuary (OACT) assumptions about future labor force participation and wage growth. Earnings are based on projected labor force participation, hourly wage rates, hours worked per week, and weeks worked per year. A separate retirement decision module predicts the date of retirement and exit from the labor force.

Pension Wealth. DYNASIM projects pension wealth from DB and DC plans as well as from IRA and Keogh plans. Pension wealth is based on an individual's entire work history (real and simulated) up to the projected retirement date. Baseline information about pension coverage on current and past jobs is based on SIPP self-reports. But the model does not assume that pension participants remain on their current job until their projected retirement date. Instead, DYNASIM imputes future job changes and pension coverage on future jobs by incorporating data on synthetic work histories from the Policy Simulation Group's PENSIM  el, developed for the Department of Labor's Pension and Welfare Benefits Administration.⁶

DYNASIM projects pension benefits from past, current, and future jobs. In general, DB plan benefits are projected using pension plan formulas from the Pension Benefit Guarantee Corporation's Pension Insurance Modeling System and the projected tenure and earnings on each job. To obtain an estimate of DB wealth at age 67, we compute the actuarial present value of DB benefits, including any survivor benefits and cost of living adjustments (COLAs). We vary the probability of selecting a joint and survivor annuity by gender and education, and the probability and amount of COLAs by employment sector (i.e., private, federal, state).

DC account balances are projected with self-reported information on the SIPP and Employee Benefit Research Institute/Investment Company Institute (EBRI/ICI) data on 401(k) contribution rates, employer match rates, and asset allocations. Self-reported account balances and employee contribution rates are available for workers with a DC plan at the time of the SIPP. For individuals who are simulated to obtain DC coverage through a future job, employee contribution rates are set to the average contribution rate, by age and earnings, derived from EBRI/ICI data (VanDerhei et al. 1999). Because workers often increase their contribution rates as they age, we allow contribution rates to change over time for all workers, regardless of whether self-reported information was available at the time of the SIPP. As workers move across age and earnings categories, the difference in EBRI/ICI average contribution rates between the subsequent age/earnings cell and the initial age/earnings cell is added to the initial contribution rate. Employer matching contributions are projected by randomly assigning a match level and a match rate based on the distribution reported in the EBRI/ICI database.⁷ The share of account balances and contributions allocated to equities varies by age, on the basis of EBRI/ICI data. Every five years, the model re-balances the portfolios according to the allocation strategy for the individual's attained age category. Subsequent contributions are allocated to match the allocation strategy of the attained age, if different.

DYNASIM accumulates DC account balances from the time of the SIPP survey to 2001 using historical price changes and historical returns for stocks, long-term corporate bonds, and

⁶ See Holmer, Janney, and Cohen (2004) for more detail on the PENSIM model.

⁷ The match level is the percentage up to which an employer will match employee contributions. The match rate is the rate at which employers will match these contributions.

long-term government bonds. Each year, we vary the rate of return experience for each individual by setting the rates stochastically, using historical standard deviations. For years after 2001, DYNASIM assumes a Consumer Price Index (CPI) growth rate of 3.0 percent (the growth rate assumed by OCACT), a real rate of return for stocks of 6.5 percent, a real rate of return for corporate bonds of 3.5 percent, and a real rate of return for government bonds of 3.0 percent. Future rates of return for individuals are varied assuming a standard deviation of 17.28 percent for stocks and 10.60 percent for bonds. These averages are based on historical averages. Regardless of year, 1 percent is subtracted from each of the stock and bond real rates of return to reflect administrative costs.

The SIPP also includes information about IRA/Keogh account balances and contributions. Similar to DC plans, IRA/Keogh account balances are accumulated to the retirement date, along with any new contributions and interest earnings. IRA/Keogh contribution rates are allowed to vary over time by age and earnings, using the same method used for DC plans. IRA/Keogh assets are allocated the same way as DC assets, and rates of return are set stochastically using the same method as that used for DC plans. Only respondents with IRA/Keogh coverage at the time of the SIPP interview have IRAs/Keoghs. No new IRA/Keogh participation is simulated in DYNASIM. This is not problematic because most IRAs are rollovers from DC pensions, which are tracked elsewhere in the model.

Social Security Wealth. DYNASIM also includes a detailed Social Security benefit calculator that uses historical and projected marital and earnings (see above description) information to estimate Social Security benefits—either retired-worker, spouse, or survivor benefits. The current benefit calculator is based on the 2002 OCACT assumptions about future price and wage growth. In each year from the projected year of first benefit receipt until the projected year of death, DYNASIM computes a respondent's Social Security benefit that reflects his or her earnings and marital history at that point in time. We compute the actuarial present value of Social Security benefits, including any spousal or survivor benefits, to obtain an estimate of Social Security wealth. Our Social Security wealth estimates are based on the assumption that current-law benefits will be payable throughout the projection period. However, the Social Security OASDI Trust Funds are projected to be exhausted by 2042 and OCACT estimates that benefits would need to be reduced immediately by 13 percent in order for the trust funds to remain solvent (Board of Trustees 2003). Therefore, our Social Security wealth estimates are likely overstated for some cohorts, particularly the baby boom cohorts.

Non-Pension Wealth. DYNASIM projects non-pension assets (i.e., vehicle, other real estate, farm and business equity, stock, mutual fund, and bond values and checking, savings, money market, and certificate of deposit account balances, less unsecured debt) on the basis of historical savings patterns. Initial non-pension wealth is based on SIPP self-reports. Then the PSID is used to estimate wealth from the age at the SIPP interview to age 50, the HRS is used to estimate asset accumulations from age 51 to retirement, and the SIPP is used to estimate asset spend-down from retirement until death. Because of large differences in individual saving behavior, use of longitudinal data is vital for estimating wealth changes over time. The PSID provides the best source of longitudinal wealth data for younger ages, and the HRS provides the best source of longitudinal wealth data for families near retirement.

Housing values and non-pension financial assets are estimated separately. Hazard models are used to predict home sales for families who own a home and home purchases for families who do not. For families projected to own a home, DYNASIM projects the value of the home using a random-effects model that accounts for the unobserved heterogeneity that is typical of wealth measures. Non-pension financial wealth is also projected on the basis of a random-effects model. The models for home value and non-pension financial wealth are estimated separately by marital status. Other key predictors include age of household head, race, family size, birth cohort, dual-earner status, pension coverage, and earnings.⁸

Comparing the SIPP and the SCF

Researchers commonly regard the Survey of Consumer Finances as one of the best sources of wealth data, and superior to wealth data in the Survey of Income and Program Participation. To assess the differences between the SCF and SIPP wealth data, we compared retirement account balances, financial assets (all other non-pension non-housing assets including cash, bonds, stocks, non-home property, and vehicles, less debt), and housing equity in the two datasets.

Mean household retirement account balances and financial wealth on the 1992 SIPP are about 50 percent lower than values on the 1992 SCF.⁹ These large differences, however, mask the underlying similarity in the distribution of wealth on the two files. The wealth levels on the SIPP and the SCF compare very closely up until about the 80th percentile. Above the 80th percentile, the SIPP wealth systematically falls behind that of the SCF. The extreme values at the top of the distribution greatly influence the means, especially for financial assets, which are very unevenly distributed. That the SCF better captures wealth at the high end of the distribution is not surprising, given that it oversamples high-income households.

Housing equity in the SIPP matches the SCF distribution closely. Although the overall distributions match, the SCF has a slightly higher homeownership rate than does the SIPP (62 versus 60 percent). This small difference in home ownership rates affects the median home value among all households, but not the median value among homeowners.

Despite these differences, the SIPP is preferred over the SCF for projecting the retirement income of future retirees because the sample size in the combined SIPP panels (1990–1993) is much larger than in the SCF (compare 71,555 observations in the SIPP with 4,305 observations in the SCF). In addition, the SIPP oversamples low-income households, not high-income households, which we are relatively more concerned about with regard to economic well-being in retirement.

We considered, but decided against, adjusting the SIPP wealth to match the SCF more closely. Making these adjustments would imply that SIPP respondents underreported owning particular assets and/or understated the value of the assets they reported owning. Although this is

⁸ See chapters 6 and 9 of Toder et al. (2002) for more detail on the estimation equations that were used to project non-pension financial assets and housing equity, including a discussion of the projection trends by cohort.

⁹ These differences are similar in other SIPP and SCF years.

one possibility, another is that the SIPP data and the SCF reflect somewhat different samples. If the differences between the SIPP and the SCF do not reflect underreporting, then making an adjustment would systematically overstate the asset levels relative to other important income and demographic characteristics of the sample.

Measuring Poverty Among the Age 67 Population

We measure poverty rates using the official poverty thresholds of the U.S. Census Bureau. These thresholds vary with family size and age and increase annually with increases in prices as measured by the CPI. For our analyses we use the 65-and-over poverty threshold.

Our measure of income differs from the Census measure in an important way. DYNASIM imputes income from financial assets by determining the real (price-indexed) annuity a family could buy if it annuitized 80 percent of its financial assets.¹⁰ (Financial assets include non-pension wealth as defined earlier, as well as IRA, Keogh, and 401(k) balances.) The annuity calculation is simply a method of transforming these assets into income to measure well-being. This calculation allows us to acknowledge that families with more financial assets are better off than families with fewer assets, and that families with longer life expectancies must make these assets last longer than must families with shorter life expectancies.

In contrast, the Census measure of income includes only actual money income.¹¹ It does not include income from assets, other than interest and dividend income from financial assets. In particular, it does not include income from retirement accounts that has not been annuitized or otherwise withdrawn during the year; account balances that are left to accumulate are excluded altogether. As a result, the DYNASIM income measure is broader than the Census measure, thus allowing us to better assess the resources available to meet consumption needs in retirement.

Sample Criteria

We separate our analyses into 10-year birth cohorts representing current retirees (born 1926–1935), near-retirees (1936–1945), early boomers (1946–1955), and late boomers (1956–1965).¹² We analyze the characteristics of individuals born in these cohorts when they reach age 67 (the age by which most people will have retired), as well as the overall level, composition, and distribution of their wealth and income. We report our results at the individual level. But each individual's wealth and income reflect household-level wealth and income; that is, we include the wealth and income of the spouse, if the individual is married. Although this is appropriate when assessing each individual's overall well-being, it is not appropriate to sum the

¹⁰ The annuity value calculated is used for that year's imputation of financial assets only. The annuity is recalculated each year to reflect changes in wealth amounts, based on our model of wealth spend-down, and changes in life expectancy, given that the individual has attained an additional year of age. For married couples, we assume a 50 percent survivor annuity.

¹¹ The Census income measure includes money income from earnings, unemployment compensation, workers' compensation, SSI, public assistance, pension or retirement income, veterans' payments, survivor benefits, interest, dividends, rents, royalties, income from estates or trusts, alimony, child support, and other miscellaneous sources.

¹² The baby boom cohort is typically represented as those born between 1946 and 1964. For analytical purposes, however, we define the baby boom cohort as those born between 1946 and 1965.

wealth and income values for the entire sample to determine the aggregate wealth held and income received by a cohort, because it will double-count the assets and income of married individuals. To compare better the wealth and income values within marital status categories, we report our results separately for married and non-married individuals. Given the many structural changes affecting women (e.g., increased earnings and labor force participation), we also analyze men and women separately. All reported wealth and income projections are in 2003 dollars.

IV. CHARACTERISTICS OF CURRENT AND FUTURE RETIREES

Shifting demographic and labor force participation characteristics could contribute to different retirement outcomes for boomers and for those of earlier generations. In this section, we describe the projected characteristics of boomers when they turn age 67 and how these characteristics might differ from those of earlier cohorts. In general, DYNASIM projects that boomers are more likely to be divorced or never married, somewhat more racially diverse, and more highly educated, with more years spent in the labor force and higher lifetime earnings, compared with previous generations (table 1 and appendix table 2).

DYNASIM projects shifts in marital status over time. On reaching age 67, between 62 and 66 percent of boomers will be married, down only slightly from the previous generation. The composition of the non-married will change more dramatically, with decreases in the share widowed and increases in the shares divorced and never married. For instance, about three in four non-married boomers are projected to be either divorced or never married at age 67, compared with about one in two from earlier cohorts. As mentioned earlier, marital status has important implications for the economic well-being of future retirees because of the higher poverty rates among current non-married retirees, especially the never married.

The racial composition of retirees is projected to shift between cohorts as minority group representation increases over time. Boomer retirees are more likely than current retirees to be black, Hispanic, or other minority (including Asian and Native American). Among married men and women, the share of Hispanic retirees in the baby boom cohorts will grow to exceed the share of black retirees, with Hispanics thereby becoming the predominant minority group. Among non-married men and women, though, blacks will continue to be the predominant minority group. The shift in minority group representation is expected to affect the retirement income and economic well-being of future retirees because among current retirees ages 65 and older, blacks are 2.5 times as likely to be poor and Hispanics are about twice as likely to be poor as whites (SSA 2002b, table 8.1).

Boomer retirees are also more likely than current retirees to be college educated and less likely to lack a high school diploma. But some of the gains in educational attainment between current retirees and the early boomers are lost somewhat among the late boomers. In particular, fewer men in the 1956–1965 cohorts than in the 1945–1956 cohorts will have completed college. Interestingly, although both men and women made significant gains in educational attainment over time, this is especially true for women. Differences in education by gender that existed among current retirees will all but disappear among late boomer retirees.

The increases in education appear to be correlated with increases in labor force experience, at least among women. On average, boomers will have spent about five more years working than the previous cohorts. Most, if not all, of this increase results from increasing labor force participation among women. For instance, the average number of years spent in the labor force among married men will hold steady at about 33 years. Married women, on the other hand, experience a dramatic increase in labor force participation, with those born between 1956 and 1965 working for 29 years on average, or 10 years more than those born between 1926 and 1935. Retirement age, defined as substantial, but not necessarily complete, withdrawal from the labor force, is projected to increase slightly from 59 among current retirees to nearly 60 among boomers.¹³

Increased time spent in the labor force, in turn, leads to higher average lifetime earnings among the boomers. Different from Social Security's Average Indexed Monthly Earnings (AIME), which is based on the highest 35 years of wage-indexed earnings, our measure of own lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62.¹⁴ This measure, unlike the AIME, includes Social Security uncovered earnings and earnings above the Social Security taxable maximum. We also create a measure of lifetime per capita shared earnings, the average of wage-indexed per capita shared earnings between ages 22 and 62, where per capita shared earnings are half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when not married.

Average lifetime earnings, in constant dollars, is projected to nearly double between the 1926–1935 and 1956–1965 birth cohorts. The increases are especially dramatic among women, whose own average lifetime earnings triple between the two birth cohorts. The increasing labor force experience and earnings among female boomers will likely lead to increased Social Security benefits as well as pension benefits. Nevertheless, a substantial gap in average lifetime earnings is projected between men and women, even among the boomer cohorts.

V. PROJECTED WEALTH OF CURRENT AND FUTURE RETIREES

In this section, we report DYNASIM projections of total wealth at age 67 for those born in the 1926–1935, 1936–1945, 1946–1955, and 1956–1965 birth cohorts. Our measure of total wealth includes financial wealth, housing equity, Social Security wealth, wealth from DB pensions, and wealth from DC plans and other retirement accounts (including IRAs and Keoghs). Social Security wealth and DB wealth are estimated as the present value of future benefits. Individuals are the units of observation, but wealth estimates reflect household wealth and include wealth of the spouse, if married. All reported wealth projections are in 2003 dollars.

¹³ Retirement age represents the age at which a worker experiences at least a 50 percent drop in earnings compared with average earnings earned between ages 45 and 50. (The drop in earnings must last for at least two years.) This age is considered the retirement age for DYNASIM's pension module. Defining the pension retirement age this way allows DYNASIM to simulate more gradual transitions to full retirement. A separate DYNASIM module estimates and projects Social Security take-up age.

¹⁴ Depending on the age they were disabled, Social Security's AIME may be based on less than 35 years of earnings for Social Security disabled insurance beneficiaries. In contrast, our measure of average lifetime earnings is based on 41 years of earnings for all individuals.

Projected Wealth Levels

According to DYNASIM projections, boomers will amass more wealth at retirement than will the previous two birth cohorts (table 2 and appendix table 3). Average household wealth at age 67 will grow from \$558,000 among current retirees to \$703,000 among today's near-retirees to more than \$800,000 among boomers. Interestingly, late boomers will experience a dip in average wealth relative to early boomers. Early boomers are expected to accumulate wealth of \$859,000 compared with only \$839,000 for late boomers. Nevertheless, even the late boomers will accumulate more wealth than the cohorts of current and near-retirees. (As we describe in more detail below, the projected drop in wealth among late boomers appears to be the result of demographic shifts as well as lower financial wealth accumulations among high wealth holders.)

With few exceptions, the increases in retirement wealth by generation hold across demographic and employment subgroups. Particular subgroups consistently accumulate lower wealth levels, however, regardless of birth cohort. Not surprisingly, substantial wealth differences exist within gender and marital status, with married couples accumulating one and a half to two and a half times as much wealth as their non-married counterparts, with divorced and never-married individuals faring the worst. Large wealth differences by race are projected, with whites projected to accumulate wealth about 50 percent greater than that of blacks and Hispanics, on average. Differences by education are even more dramatic; college graduates will accumulate about twice the wealth of high school graduates, and more than three times the wealth of those without a high school diploma. These gaps are projected to widen between the cohorts of current retirees and the early boomer cohorts, but then narrow among the late boomers.

Wealth at retirement also increases with years in the labor force, and these gaps are projected to increase for each successive cohort. Similarly, individuals with higher lifetime earnings accrue more wealth at retirement. Individuals in the highest earnings quintile accumulate about twice as much wealth at age 67 as those in the lowest quintile. Gaps in wealth are even more evident when one examines the distribution of wealth. Among the cohort of current retirees, household wealth at age 67 for individuals in the highest wealth quintile is 10 times that for the lowest quintile. This wealth gap narrows slightly among the late baby boom cohort. Nevertheless, large disparities in wealth are projected to remain, reflecting the very skewed nature of the wealth distribution.

Because the average wealth levels and trends can be skewed by high wealth outliers, table 3 (as well as appendix table 4) reports median wealth levels. Median household wealth at age 67 is projected to grow from \$448,000 among current retirees to \$520,000 among today's near-retirees to about \$600,000 among boomers. Although lower than average wealth, median wealth exhibits similar patterns by category and across cohorts. The one exception is that while the late boomer cohort experiences a dip in average wealth compared with the early boomer cohort, no such dip occurs in median wealth.

Composition of Wealth

When household wealth at retirement is analyzed, it is important to consider the various sources of wealth and how these sources may have changed over time. More than 90 percent of individuals will have non-retirement financial assets at retirement and approximately 80 percent will have housing equity (top panel of table 4). Taken together, nearly all individuals have some form of non-retirement wealth. Similarly, nearly all will have Social Security wealth, either through their own employment or through their spouse's. Fewer retirees, however, will have access to private pensions or retirement accounts. For instance, including any retirement plans of their spouses, 47 percent of late boomers have DB pension wealth and 65 percent have retirement accounts (employer-provided DC plans, IRAs, or Keoghs).

In general, the overall share of individuals in households with a particular wealth source will change only modestly by cohort. The one exception is the share of individuals in households with retirement accounts, which is projected to increase from 46 percent among the cohort of current retirees to 65 percent among the late boomer cohort. And although the share of all individuals in households with DB coverage will remain fairly steady across cohorts, DB coverage from one's own job is expected to increase among women, due to their increased labor force participation rates. In contrast, DB coverage declines among men, reflecting the shift from DB plans to DC plans (appendix table 5).

Table 4 also shows each wealth source's contribution to average total wealth and how these vary by cohort. The middle panel of table 4 (and appendix table 6) presents average wealth by source, and the lower panel of table 4 (and appendix table 7) presents the share of total wealth held by each source. As noted above, average household wealth at age 67 will grow from \$558,000 among current retirees to \$859,000 among the early boomers, and then will drop to \$839,000 among the late boomers. Both financial wealth and housing wealth exhibit patterns similar to total wealth—and together, non-retirement wealth is expected to increase from \$228,000 among current retirees to \$402,000 among early boomers, but then drop to \$335,000 among late boomers.

The drop in non-retirement wealth among late boomers is consistent with previous research finding lower wealth accumulations among late boomers compared with early boomers (Hurst, Luoh, and Stafford 1998). DYNASIM projections reveal that the dip in financial wealth is concentrated among married couples and in large part reflects shifting demographics. Among married men, late boomers are more likely to belong to a racial or ethnic minority than early boomers, and are less likely to have a college degree. Both of these shifts contribute to lower wealth among the late boomers. In addition, late cohorts are more likely to hold non-collateralized debt, such as credit card debt or student loans. The drop in housing wealth likely reflects many factors, including declining family size, demographic shifts, and increases in the prevalence of 30-year mortgages and home equity loans, which slow the accrual of housing equity (Smith 2002). Furthermore, earlier cohorts enjoyed rapid increases in housing values in the 1960s and 1970s that were not experienced among later cohorts. Notably, as a result of their increase in homeownership rates, non-married women in the late boomer cohort do not experience the dip in housing equity observed in other groups.

Unlike non-retirement wealth, retirement wealth increases steadily across all cohorts, without a drop among late boomers. However, different trends emerge among the different components of retirement wealth. Average Social Security wealth is projected to increase steadily across cohorts, consistent with findings of Bridges and Choudhury (2003). In contrast, average household DB wealth decreases across cohorts, from \$90,000 among the cohort of current retirees to \$62,000 among the late boomers, and DB wealth as a share of total wealth decreases from 16 percent to 7 percent. Average retirement account wealth increases dramatically, more than offsetting the declines in DB wealth. Household retirement account wealth at age 67 is projected to increase from \$34,000 among current retirees to \$140,000 among late boomers, with its share of total wealth increasing from 6 percent to 16 percent.

Table 5 focuses on mean household wealth among the median 10 percent of individuals, on the basis of total wealth.¹⁵ The table's upper panel (and appendix table 8) presents average wealth by source and its lower panel (and appendix table 9) presents the share of total wealth held by each source, each for the median 10 percent of wealth holders. Because of the positively skewed nature of the wealth distribution, average total wealth among the median 10 percent of wealth holders falls below mean total wealth of the entire sample, by between about one-quarter and one-third depending on birth cohort. Financial wealth appears to be the most skewed wealth category; the average financial wealth of median individuals is less than half of that of all individuals. As a result, financial wealth constitutes a lower share of average wealth among median individuals than for all individuals. To a lesser extent, retirement account wealth is also positively skewed. In contrast, Social Security wealth is very similar between median individuals and all individuals. Consequently, although Social Security wealth constitutes just over one-third of wealth among all individuals, it constitutes nearly half of total wealth among the median wealth holders.

The trends across cohorts for specific wealth sources among the median wealth holders generally follow the patterns exhibited among all individuals. The exception, though, is that the late boomer households do not experience a dip in overall wealth. Although they do experience a drop in non-retirement wealth, this drop is more than offset by the increase in retirement wealth. Because Social Security wealth constitutes a larger share of total wealth among median wealth holders, increases in Social Security wealth by cohort are more important among this group and can offset drops in other wealth sources.

That financial assets constitute a relatively smaller share of total wealth for some households likely explains why some subgroups experience a dip in wealth among late boomer cohorts, and others do not. For instance, table 2 shows a dip in average wealth among whites in the late boomer cohort, but no dip occurs among blacks or Hispanics. Similarly, a dip occurs for those with college degrees, but not for those who lack a high school diploma. Minority groups and those with less educational attainment derive less of their wealth from financial wealth, so any dips in financial wealth can be more than offset by increases in Social Security wealth and other retirement wealth.

¹⁵ In other words, the mean household wealth of those with total wealth in the 45th–55th percentiles. This definition of median overcomes the problem of skewness while maintaining a distribution of values.

Comparing Wealth Projections

A few other studies have projected wealth to retirement age in order to assess household savings adequacy. For instance, Moore and Mitchell (2000) project retirement wealth for the 1931–1941 cohort using the 1992 Health and Retirement Study. They use wealth data as of 1992, when respondents were ages 51 to 61, and project wealth forward to age 65. Net financial wealth is projected forward using averages of market returns based on historical rates. Housing wealth is projected forward by increasing the market value and decreasing mortgage debt. Social Security and pension wealth are calculated based on the assumption that workers remain employed until age 65.

Table 6 compares the Moore and Mitchell wealth projections with DYNASIM projections at age 67 for the 1926–1935 and 1936–1945 birth cohorts. The Moore and Mitchell projections of average total wealth (\$816,000) exceed substantially those in DYNASIM (\$558,000 for the 1926–1935 birth cohort and \$703,000 for the 1936–1945 birth cohort). Several factors contribute to the different wealth projections. First, much of the difference between the two projections derives from different financial wealth estimates. Even though Moore and Mitchell project current financial assets forward without any new savings, they project financial wealth of \$298,000 at age 65, much greater than the DYNASIM projected wealth, which includes new savings even among near-retirees. The gap in financial wealth between the two projections narrows, however, when the mean wealth of the median 10 percent of wealth holders is examined. The HRS does a better job of capturing wealth among high wealth holders because of survey innovations involving the option of bracketed responses for initial non-responses (Juster and Smith 1997).

Second, the Moore and Mitchell pension wealth estimates exceed those of DYNASIM, even for the median wealth holders, likely reflecting different retirement assumptions. Moore and Mitchell assume that workers remain employed until age 65, whereas the DYNASIM simulations reflect an average retirement age of about 60.¹⁶ Finally, DYNASIM's Social Security wealth projections exceed those of Moore and Mitchell, whose estimates understate wealth for divorced and widowed individuals (Mitchell, Olson, and Steinmeier 1996). Although it is not possible to explicitly reconcile the differences between the two projection methods, DYNASIM's projections appear reasonable in light of the different methodologies, at least among cohorts at or near retirement.

In another study, Wolff (2002) uses the 1983, 1989, and 1998 SCF to assess the adequacy of retirement savings for individuals ages 47 and older. He examines wealth as of the SCF survey date and projects retirement income on the basis of these wealth holdings and expected DB pension and Social Security benefits. Financial wealth, including DC wealth, is measured as of the current age at the survey date. DB pension wealth and Social Security wealth values represent the present value of expected benefits, assuming the self-reported expected retirement age, discounted back to the current age at the survey date.

¹⁶ As discussed above, the DYNASIM retirement age reflects a substantial, but not necessarily complete, withdrawal from the labor force.

Table 7 compares the Wolff 1998 wealth estimates with DYNASIM wealth projections at age 67. These estimates are not directly comparable because the Wolff estimates reflect wealth as of the age at the survey date, whereas the DYNASIM estimates reflect wealth at age 67. Nevertheless, comparing the estimates, especially among similar birth cohorts, can provide valuable insights. The Wolff estimates for the 1928–1933 cohort and DYNASIM projections for the 1926–1935 cohort should be the most comparable, because they each estimate wealth at or around age 67. The Wolff estimate of average total wealth (\$834,000) exceeds substantially that in DYNASIM (\$558,000). Much of the difference between the two estimates derives from different financial wealth estimates. As discussed above, the SCF measures the wealth of high wealth holders better than the SIPP does. Measured at the median instead of the mean, DYNASIM’s financial wealth projections actually exceed those in Wolff. This same pattern generally exists across other asset classes as well.

Looking at later cohorts, however, reveals important differences between the wealth estimates. Wolff finds lower financial wealth and DC wealth among the 1940–1951 cohorts compared with the 1928–1939 cohorts. This decline reflects the fact that financial wealth and DC wealth are measured as of 1998, the time of the survey, and that younger individuals will have accrued lower wealth in these assets than older individuals. In contrast, DYNASIM projects wealth to age 67 and includes additional financial savings and contributions to DC plans. Consequently, Wolff’s estimates of retirement income, which are based on financial and DC wealth accumulated to date, will be understated. This understatement will be greatest for later generations, who are more likely to have DC plans.

VI. PROJECTED INCOME OF CURRENT AND FUTURE RETIREES

In this section, we report DYNASIM projections of total income at age 67, where total income includes income from financial assets, imputed rental income, Social Security benefits, DB pension benefits, and income from retirement accounts, as well as earnings, SSI, and income from non-spouse co-resident family members.¹⁷ We describe the overall income levels, as well as the composition and distribution of total income. Individuals are the units of observation, but income estimates reflect household income and include income of the spouse, if the individual is married. All reported income projections are in 2003 dollars.

Projected Income Levels

As with average wealth, average total income is projected to be higher for future retirees than for current retirees (table 8). Average income at age 67 is projected to increase from \$44,000 among current retirees to \$55,000 among today’s near-retirees to \$65,000 for both the early and late baby boom cohorts.

¹⁷ Imputed rental income is 3.0 percent of the difference between the house value and the remaining mortgage principal. There is debate over whether to include housing in income measures and replacement rates. Proponents argue that homeowners with identical financial resources as renters are better off because they don’t have to pay additional income for housing. Critics argue that only actual income flows should be included. Although we include imputed rent in the measure we use to describe the overall levels, composition, and distribution of total income, we do not include imputed rent in the income measure we use to determine replacement rates and poverty rates.

Although income is projected to stagnate between the early and late baby boom cohorts, some of the more vulnerable subgroups in the late baby boom cohort will experience income gains, including never-married and divorced men, non-married women, minorities, and high school dropouts and graduates. In contrast, average total income will decline or remain unchanged for married individuals, white non-Hispanics, and college graduates. These trends, along with a shift in demographics from the groups who typically have above-average income to those who typically have below-average income, combine to hold income steady between the early and late baby boom cohorts.

Unlike married individuals and non-married men, the average income of non-married women in nearly all subgroups will likely increase in each successive birth cohort (appendix table 10). As a result, non-married women are projected to experience a larger percentage gain in income between the current retiree and late baby boom cohorts than any other marital group. For example, total income among never-married women is projected to be 68 percent higher for early boomers and 91 percent higher for late boomers than for current retirees. Despite their economic gains, however, non-married women will continue to have lower average incomes than non-married men, married women, or married men.

The trends in median total income are similar (table 9 and appendix table 11). Median income is projected to increase for the near-retiree and early baby boom cohorts, but then stagnate among the late baby boom cohort. And similar to trends in average income between the early and late baby boom cohorts, median income is projected to increase between the early and late baby boom cohorts for minorities, high school dropouts, and high school graduates. Unlike average income, however, median income is projected to increase for all marital groups except widowed men.

Composition of Income

In addition to income from the wealth sources described in Section V, many retirees have income from earnings, SSI benefits, and co-resident income.¹⁸ Among current retirees, 23 percent have earnings from their own employment, 17 percent have a spouse with earnings, 8 percent have their own SSI benefits, 2 percent have a spouse with SSI benefits, and 16 percent have co-resident income (table 10). Retirees with earnings are projected to increase among the baby boom cohorts, while those with SSI benefits and co-resident income are projected to decrease among the baby boom cohorts.

Non-married individuals are more likely than married individuals to have SSI benefits and co-resident income (appendix table 12). Married men and non-married women are more likely than their counterparts to have earnings from their own employment. Among current retirees, only 12 percent of married women were working at age 67 compared with 26 percent of non-married women. Although this share is projected to increase with each successive cohort for

¹⁸ With the exception of spousal income from Social Security, the share of individuals with a particular income source equals the share with wealth from that source. The share of individuals with spousal income from Social Security falls below the share with wealth from that source, however, because the spouse may not yet be collecting benefits.

both sets of women, the gap in labor force participation rates between married and non-married women will narrow only slightly. About 30 percent of non-married women in the baby boom cohorts are projected to have earnings at age 67, nearly double that of married women.

Table 10 also shows each income source's contribution to average total income and how these vary by cohort. The middle panel of table 10 presents average income by source, and the lower panel presents the share of total income held by each source. Non-retirement income sources make up about half of the average income received at age 67, and are projected to increase from \$21,000 among current retirees to \$34,000 among the early boomer cohort, but then decrease to \$31,000 among the late boomer cohort. The decline in non-retirement income results from a decline in income from financial assets and imputed rental income, which are projected to total \$11,000 among current retirees and \$18,000 among early boomers. Coincident with the decline in financial wealth and housing wealth among the late baby boom cohort compared with the early baby cohort, income from these wealth sources is projected to decrease to \$15,000 among late boomers.

Other non-retirement income sources include earnings, SSI, and co-resident income. Taken together, income from these sources is projected to increase from \$10,000 for current retirees to \$16,000 for early boomers and \$17,000 for late boomers. This overall increase results primarily from projected increases in household earnings at age 67, which make up about two-thirds or more of all non-retirement income.

This decline in non-retirement income among late boomers is offset by an increase in retirement income. Average income from retirement sources is projected to increase from \$24,000 among current retirees to \$31,000 among the early baby boom cohort to \$34,000 among the late baby boom cohort. Similar to the trends in retirement wealth, income from Social Security and retirement accounts will increase steadily across cohorts, more than offsetting declines in DB pension income.

Differences in average income by source emerge by gender and marital status. In every cohort, married individuals are projected to have higher financial asset income and imputed rental income and equal or lower co-resident income than non-married individuals (appendix table 13). In general, married men are projected to have higher own earnings at age 67 than non-married men. They also will have higher Social Security benefits and DB pension income, reflecting their higher pre-retirement earnings. In contrast, non-married women have higher own earnings at age 67 than do married women. They also have higher own Social Security benefits and DB pension income, reflecting their higher pre-retirement earnings.

Non-retirement income sources comprise a larger share of total income for married men and non-married women than for non-married men and married women (appendix table 14). This is not due to financial asset income, but to household earnings for married men and to co-resident income for non-married women. Co-resident income accounts for between one-fifth and one-quarter of total income for non-married women in every birth cohort. After Social Security, it is the most important source of income for non-married women. In contrast, it represents less than 10 percent of total income for married individuals and non-married men. The relative importance of household Social Security income, about a third of total income, varies little

within gender and marital status. Even after accounting for spouse retirement accounts, retirement accounts represent a larger share of total income for non-married men than for married men. The opposite is true for women.

Within marital groups, there are notable differences in the cohort trends described above. First, among non-married men, the share of total income from financial income is projected to increase from 18 percent for current retirees to 22 percent for boomers. Second, among married and non-married women, own earnings as a share of total income is projected to double between current retiree and baby boom cohorts—reflecting increased female labor force participation and earnings. Finally, among non-married women, co-resident income is projected to decrease from 24 percent of total income for current retirees to only 19 percent for late boomer retirees.

In general, income trends over time are similar for median individuals and all individuals. Mostly because of the positive skewness of financial income, however, mean non-retirement income of the median 10 percent of income recipients is about 60 percent lower than that of all individuals (table 11). Even household earnings are about 50 percent lower for median individuals than for all individuals in most cohorts. Retirement income sources, particularly Social Security benefits, are much less skewed. As a result, retirement income is very similar between median individuals and all individuals. But it constitutes a much larger of total income for median individuals than for all individuals.

For non-married men and women, mean household income of the median 10 percent of income recipients is about 70 percent lower than that of all individuals (appendix table 15). For married men and women, on the other hand, mean household income is about 80 percent lower for median individuals than for all individuals. Income from DB pensions and retirement accounts is much more positively skewed for non-married men and women than for married men and women. Differences between median individuals and all individuals in the mean amount of these income sources are much greater for non-married men and women than for married men and women. Interestingly, co-resident income is somewhat negatively skewed for married men and women (mean income is higher for median individuals than for all individuals) and positively skewed for non-married men and women (mean income is lower for median individuals than for all individuals). The distribution of co-resident income is most skewed for non-married women. Despite these differences, income trends over time are generally similar for median individuals and all individuals.

Within marital groups, Social Security benefits comprise a larger share of total income among median individuals than for all individuals (appendix table 16). This is because the positive skewness of financial income, earnings, DB pensions, and retirement accounts lowers their relative contribution to total income for median individuals.

Comparing Income Projections

Comparing our retirement income projections with those in other research studies is difficult for various reasons. Many of the relevant studies report only retirement wealth and not retirement income. Those that do report retirement income typically consider only current retirees, and studies that focus on boomers tend to report their income at middle age and not their

projected income at retirement. Wolff (2002) is one of the few studies on retirement well-being that reports projected retirement income. Even so, the Wolff income projections are not directly comparable because they reflect expected income as of the age at the survey date, whereas the DYNASIM estimates reflect income at age 67. Nonetheless, it is useful to compare the DYNASIM estimates with the Wolff income projections and to understand what may account for any differences.

Wolff (2002) presents estimates of expected income at retirement based on an annuity that is 7 percent of current non-pension financial wealth, DC account balances, and housing wealth plus expected DB and Social Security benefits. As table 12 shows, DYNASIM projections of income in retirement are significantly lower than those in Wolff. The 1934–1936 Wolff cohort is projected to average \$58,000 at retirement, while the 1926–1935 DYNASIM cohort is projected to have only \$34,000 at retirement. The 1937–1940, 1940–1942, and 1943–1945 Wolff cohorts are projected to average \$75,000, \$56,000, and \$56,000, respectively, at retirement compared with only \$42,000 for the 1936–1945 DYNASIM cohort. Finally, the 1946–1948 and 1949–1951 Wolff cohorts are expected to have about \$50,000 at retirement compared with \$49,000 for the 1946–1955 DYNASIM cohort. If we were able to compare median values from Wolff and DYNASIM, as with wealth we would likely find much smaller differences.

These large differences are due mainly to income from non-pension financial wealth and DC account balances. Wolff uses wealth reported in the SCF, while DYNASIM projections of wealth are based on the SIPP. As noted above, these sources of wealth are about 50 percent lower on the SIPP than on the SCF. DYNASIM projections of income from housing wealth are also slightly lower than those in Wolff, most likely because of slightly lower homeownership rates in the SIPP than in the SCF. In contrast, projections of DB pension and Social Security benefits are remarkably similar between the studies.

Although Wolff estimates of expected retirement income are higher than the DYNASIM projections, they are still most likely underestimated for two reasons. First, Wolff's non-pension financial wealth and DC account balances do not account for new savings that accumulates before retirement. Second, he omits a number of income sources, namely earnings, SSI benefits, and co-resident income. These sources of income are particularly important to lower-income households and, as discussed above, amount to \$10,000 for current retirees, \$16,000 for early boomers, and \$17,000 for late boomers (table 10). Without these sources of income, retirees who are black or Hispanic, non-married, or less educated look much worse off than they actually are.

VII. ADEQUACY OF RETIREMENT INCOME

To assess the adequacy of projected income to meet consumption needs, this section describes DYNASIM projections of replacement and poverty rates at age 67. Although their real incomes will be higher than those of earlier cohorts, boomers will not achieve higher replacement rates in retirement than will current retirees. We find that replacement rates are expected to increase only marginally between current retirees and early baby boom cohorts, and to decline for late baby boom cohorts. Poverty rates, on the other hand, are projected to decline substantially over time, in large part because of the effects of higher earnings on real Social

Security benefits and other retirement income and the fact that poverty thresholds are not adjusted to reflect real-wage increases over time. Nevertheless, certain boomer subgroups will remain especially vulnerable to living in poverty, including never-married and divorced women, blacks, high school dropouts, and those with a weak labor force attachment.

Replacement Rates

Replacement rates provide information about well-being during retirement years relative to well-being during pre-retirement years. Here we consider how well retirement income will maintain an individual's pre-retirement living standard—measured as pre-retirement earnings. An important issue when calculating replacement rate ratios is how to define the pre-retirement earnings used in the denominator. Final earnings are often defined as earnings in the year before retirement or average earnings in the last five years before retirement. Because many individuals reduce their work effort just before retirement, though, average earnings in the years just before retirement may understate the living standards to which retirees were accustomed. Therefore, we define pre-retirement earnings as per capita shared earnings between ages 50 and 54. We compute our replacement rates as the ratio of per capita household income (pre-tax and post-transfer) at age 67 to average per capita shared earnings between ages 50 and 54. Although we include imputed rent and co-resident income in the income measure we use to describe the overall levels, composition, and distribution of total income, we exclude these income sources from the income measure we use to determine replacement rates.

Overall Replacement Rates. Early boomers are expected to have replacement rates that are very similar to those of current retirees (table 13). In contrast, late boomers are expected to have lower replacement rates than do current retirees, despite having higher real incomes. Median replacement rates are projected to be between 86 and 88 percent for current retirees, near-retirees, and early boomers. In other words, per capita household income at age 67 will replace 86 percent of average per capita shared earnings between ages 50 and 54. Replacement rates are expected to decrease to 80 percent for late boomers. This finding suggests that the retirement incomes of late boomers will not rise as much as their pre-retirement earnings, relative to prior cohorts.

Often, economically disadvantaged individuals will have high replacement rates because they have relatively low earnings, but relatively high Social Security benefits (because of the progressivity of the Social Security system), SSI benefits (because SSI is a means-tested entitlement program), and co-resident income. It is not surprising, then, that among current retirees, replacement rates are highest for a number of economically vulnerable subgroups, including never-married women, widowed men, those with a weak labor force attachment, and those in the lowest quintiles of own and shared lifetime earnings. Rates are also highest for college graduates and those in the highest quintile of total income at age 67. In contrast, replacement rates are lowest for divorced men and women, blacks, high school dropouts, those with many years of work experience, those in the highest quintile of shared lifetime earnings, and those in the lowest quintile of total income at age 67. These patterns generally hold across all cohorts of retirees, except that in the baby boom cohorts, replacement rates are highest for widowed women (compared with women in other marital groups), blacks, and high school

dropouts, and lowest for married men (compared with men in other marital groups) and other minority groups (including Asians and Native Americans).

Distribution of Replacement Rates. Household income replaces less than 25 percent of shared lifetime earnings for 2 percent of current retirees, less than 50 percent of shared lifetime earnings for 20 percent of current retirees, less than 75 percent of shared lifetime earnings for 42 percent of current retirees, and less than 100 percent of shared lifetime earnings for 57 percent of current retirees (table 14). In other words, 43 percent of current retirees will have per capita income at age 67 that is higher than their average per capita shared earnings between ages 50 and 54. This share decreases slightly to 42 percent of early boomers and to 36 percent of late boomers. The fairly high share of individuals with retirement income that exceeds their pre-retirement income may reflect the broad definition of retirement income used in our replacement rate calculation. In Section VII, we explore the sensitivity of our replacement rate results to different retirement income definitions.

The distribution of replacement rates is fairly consistent within gender and marital status. Regardless of the replacement rate threshold, the share of individuals falling below that threshold stays fairly steady from the cohort of current retirees to the early boomers. Then, a larger share of late boomers fails to exceed the threshold. An exception to this trend, however, is that a smaller share of non-married men in the late boomer cohort fails to exceed the threshold. Indeed, the share of non-married men falling below the threshold actually declines over time for replacement rate thresholds below 100 percent.

Alternative Replacement Rate Measures. To determine the sensitivity of our replacement rate projections, we also examine replacement rates under alternative scenarios. First, we examine how projected replacement rates would differ under alternative assumptions about Social Security benefits. Our baseline projections assume that current-law Social Security benefits will be payable throughout the projection period. The Social Security system, however, is out of long-term actuarial balance and requires an increase in payroll taxes, a decrease in benefits, or some combination of the two to achieve balance. For this exercise, we assumed that current and future benefits would be cut immediately (beginning in 2004) by 13 percent, an amount that would keep the trust funds in balance over the next 75 years (Board of Trustees 2003). Under this alternative assumption, we expect projected replacement rates to decrease as a result of lower Social Security benefits and lower retirement income.¹⁹

For current retirees, who are age 67 between the years 1993 and 2002, replacement rates at age 67 are not affected by this benefit cut (table 15). However, replacement rates would decrease for the majority of near-retirees, as well as for all early and late boomers. For each of these cohorts, median replacement rates would decrease by 5 percentage points to 81 percent for near-retirees, 82 percent for early boomers, and 75 percent for late boomers. Replacement rates decline by more than average for those whose Social Security benefits comprise a significant portion of their retirement income. These groups include widows, high school dropouts, those with a weak labor force attachment, and those with low earnings and income.

¹⁹ This simulation assumes no behavioral response to cuts in Social Security benefits.

Next we examine the sensitivity of our replacement rate projections to retirement income sources. If we include only the main sources of retirement income (i.e., Social Security, DB pensions, and retirement accounts), median replacement rates are 57 percent for current retirees, 54 percent for early boomers, and 52 percent for late boomers (table 16). Adding income from financial assets increases median replacement rates to 71 percent for current retirees, 68 percent for early boomers, and 63 percent for late boomers. Finally, adding earnings and SSI benefits further increases median replacement rates to 87 percent for current retirees, 88 percent for early boomers, and 80 percent for late boomers. These replacement rates, which use the broadest measure of retirement income, are the replacement rates reported in the previous tables.

Not only are replacement rates sensitive to the definition of retirement income, but they are also sensitive to how the pre-retirement earnings in the denominator are measured. As mentioned above, our replacement rates are based on average per capita shared earnings between ages 50 and 54. However, because many workers experience time out of the workforce and declining earnings later in their careers, Smith (2002) argues that it may be more appropriate to define earnings on the basis of the actual patterns of work across a lifetime. To test the sensitivity of our results to the choice of the denominator, we also computed replacement rates using average per capita shared earnings between ages 22 and 62 in the denominator (table 17). For all retirees, except non-married men in the baby boom cohorts, these replacement rates are higher than those computed with average per capita shared earnings between ages 50 and 54. With this denominator, our replacement rates are 108 percent for current retirees, 95 percent for near-retirees, 90 percent for early boomers, and 83 percent for late boomers. These higher replacement rates come about because average lifetime earnings are generally lower than average earnings between ages 50 and 54, when workers are at their peak earning years.

Comparing Replacement Rate Estimates. Differences in methodology make it difficult to reconcile our replacement rates with those in other research studies. Nevertheless, it is useful to consider where in the range of replacement rates the DYNASIM estimates lie, and to understand what may account for any differences between the DYNASIM estimates and other replacement rate projections.

Gustman and Steinmeier (1999) use the 1992 HRS to compute replacement rates for the 1931–1941 cohort. Their numerator includes current assets and annuitized income from financial wealth, housing wealth, Social Security wealth, and pension wealth. Because their numerator excludes additional savings between 1992 and the expected retirement date, post-retirement earnings, and income from SSI, it likely underestimates income in retirement and understates replacement rates. At the same time, their denominator is based on household earnings in 1992 (when respondents were 51 to 61 years old). Because household earnings are based on only a point in time, they can overestimate or underestimate household earnings over a lifetime. For example, many older respondents may have already reduced their work effort in anticipation of retirement. Their household earnings at age 61 may not be representative of the earnings levels they enjoyed over their lifetimes or even at the peak of their careers. On the basis of these data and their methodology, Gustman and Steinmeier estimate a median nominal replacement rate of 79 percent and a real replacement rate of 52 percent based on wealth accumulated through 1992. They roughly estimate that including additional savings would increase these replacement rates

to 96 and 62 percent, respectively, based on wealth accumulated through retirement age. But excluding housing wealth would decrease these replacement rates to about 83 and 53 percent, respectively, based on wealth accumulated through retirement age.

Moore and Mitchell (2000) also use the 1992 HRS to assess retirement preparedness for the 1931–1941 cohort at the retirement ages of 62 and 65. Their numerator and denominator include the same income sources used by Gustman and Steinmeier, but on an after-tax basis. Moore and Mitchell estimate that individuals who retire at age 65 need to save at a median rate of 7 percent annually to attain a replacement rate of 78 percent.

In comparison to the replacement rates presented in Gustman and Steinmeier and Moore and Mitchell, DYNASIM projects that the 1926–1935 and 1936–1945 cohorts will attain median replacement rates of 86 percent. These replacement rates, based on a real annuity from wealth projected until retirement age, include new savings. DYNASIM replacement rates also include post-retirement earnings and SSI income. Excluding earnings and SSI benefits from our income measure reduces the DYNASIM replacement rates to 71 and 67 percent for the 1926–1935 and 1936–1945 cohorts, respectively. Moore and Mitchell include annuitized income from housing wealth in their income measure. DYNASIM replacement rates would be even higher if we added imputed rental income to our income measure.

Haveman et al. (2003) use data from the Social Security Administration’s New Beneficiary Data System on retired-worker beneficiaries in 1982 to examine whether retirees saved enough to maintain their pre-retirement living standards. Their replacement rates, based on annuitized income from wealth that is observed (not projected) at retirement and actual pre-retirement earnings (from age 50 to one year before retirement) of the respondent and spouse, address the shortcomings of many studies. The authors find that the median replacement rate among current retirees is about 80 percent for married men, married women, and non-married women, and about 70 percent for non-married men. As in the other studies, these replacement rates are likely understated because they exclude post-retirement earnings and SSI income. The authors also find that only about 30 percent of retiree households have incomes less than 70 percent of pre-retirement earnings. DYNASIM estimates that 42 percent of current retirees have incomes less than 75 percent of per capita shared earnings between ages 50 and 54.

Finally, we compare the distribution of replacement rates in DYNASIM with those in Wolff (2002). As shown in table 18, Wolff finds that in 1998, 67 percent of individuals ages 56 to 64 (the 1934–1942 birth cohort) and 82 percent of individuals ages 47 to 55 (the 1943–1951 birth cohort) will have retirement replacement rates of less than 100 percent. These results are in contrast to about 58 percent for DYNASIM projections of the 1936–1945 and 1946–1955 birth cohorts. If we exclude earnings and SSI benefits from our income measure, as Wolff does, these estimates increase to about 70 percent.

Even after excluding earnings and SSI benefits from our income measure, our replacement rates are still higher than those in Wolff. There are a couple of possible explanations for these differences. First, the numerator in the Wolff replacement rate is likely underestimated because it excludes additional savings between the current period and the future retirement date. Second, the denominator in the Wolff replacement rate includes only household earnings in the

year before retirement (projected from current earnings) and may not be typical of the pre-retirement living standards to which retirees were accustomed.²⁰

Poverty Rates

To assess retirement well-being on a more absolute scale, we also compute poverty rates, measured using the official poverty thresholds of the U.S. Census Bureau. In contrast to the Census income measure that includes only money income, using DYNASIM we calculate a more comprehensive measure of income that also includes annuitized income from financial assets. We refer to the DYNASIM projections as adjusted poverty rates.²¹

The projected increase in retirement incomes between current retirees and baby boom cohorts will reduce adjusted poverty rates for most men and women (table 19 and appendix table 17). Overall adjusted poverty rates at age 67 are projected to decrease from 8 percent among current retirees, to 5 percent among today's near-retirees, to 4 percent among early boomers, and to 2 percent among late boomers. The decline in poverty largely reflects the assumption of positive real-wage growth. Wages are projected to increase by more than five times between 1993 (when the 1926 birth cohort turns age 67) and 2032 (when the 1965 birth cohort turns age 67), while prices are projected to increase by only about three times.²² As a result, individuals will grow out of poverty because their earnings, and consequently their Social Security benefits and pensions, will increase more quickly than the poverty thresholds (which are indexed to price growth).

Nearly all demographic and economic subgroups will experience declines in adjusted poverty rates over time, and subgroups with the highest adjusted poverty rates among current retirees enjoy the largest reductions. Nevertheless, certain boomer subgroups will remain especially vulnerable. For instance, never-married women in the boomer cohorts will have adjusted poverty rates between three and five times the average rate for their cohort, and divorced women will have rates as much as four times the average. To a lesser extent, never-married men in the boomer cohorts will also have higher-than-average adjusted poverty rates. In addition, blacks, Hispanics, individuals without high school degrees, and those with fewer than 20 years in the labor force will have higher adjusted poverty rates than average. Because of the correlation between pre-retirement earnings and post-retirement earnings, retirees with the lowest lifetime earnings will also have higher-than-average adjusted poverty rates.

²⁰ Wolff (2002) calculates future earnings by projecting current earnings to the year the respondent expects to leave the job or retire. Current earnings increase in the future on the basis of (i) an age-specific occupational adjustment taken from the slopes in the CPS log-wage regressions; (ii) the OCACT intermediate assumption of 1.5 percent annual economy-wide real-wage growth; and (iii) the OCACT intermediate assumption of 4.0 percent inflation.

²¹ As expected, DYNASIM's adjusted poverty rate at age 67 of 8 percent for current retirees is slightly lower than published Census poverty rates, which are between 9 and 10 percent for persons ages 65 to 74 between 1993 and 2002—the years in which the 1926–1935 cohort turned age 67 (U.S. Census Bureau 1996–2003, U.S. Census Bureau 1993).

²² Based on the intermediate assumptions in Table V.B1 of the 2002 OASDI Trustees Report.

Among late boomers, non-married individuals who are black, lack a high school degree, have fewer than 20 years in the labor force, or have low lifetime earnings are at particular risk of poverty. For instance, among non-married women in the late boomer cohort, adjusted poverty rates at age 67 are 11 percent among blacks, 15 percent among those without a high school degree, 20 percent among those with fewer than 20 years in the workforce, and 17 percent among those in the lowest lifetime earnings quintile.

Even though some subgroups have high adjusted poverty rates at age 67, they will constitute small shares of the population in poverty if they are a small share of the overall population. Therefore, we also examine the composition of the population in poverty (table 20). Any subgroup's share of the poor takes into account both the subgroup's poverty rate and its share of the age 67 population. Many groups with higher adjusted poverty rates, such as women, divorced, and never-married individuals, constitute larger shares of the population in poverty. Divorced and never-married women make up nearly half of the population in poverty among late boomers. Even with their extremely low adjusted poverty rates, however, one out of four individuals in poverty at age 67 is married, reflecting the large share of the population that are married.

Although blacks have higher adjusted poverty rates than whites, they make up a minority of the population in poverty because they comprise a relatively small share of the overall population. As the share of blacks increases over time, however, their share of the population in poverty will increase, even as the gap in adjusted poverty rates between blacks and whites narrows. More than one-quarter of the late boomer population in poverty is projected to be black, up from just over one-sixth of current retirees in poverty. Hispanics comprise about 15 percent of the population in poverty, regardless of cohort—declining poverty rates among this group are enough to offset their increasing share of the overall population.

Alternative Poverty Rate Measures. To determine the sensitivity of our poverty rate projections, we also examine poverty rates under alternative scenarios. First, we examine how projected poverty rates would differ if Social Security benefits were cut by 13 percent, an amount that would keep the Social Security trust funds in balance over the next 75 years. Under this scenario, adjusted poverty rates would increase only slightly above those in the baseline (table 21). Adjusted poverty rates for current retirees would remain at 8 percent, but adjusted poverty rates for boomers would increase by 1 percentage point, to 5 percent for early boomers and 3 percent for late boomers. Reducing Social Security benefits would increase adjusted poverty rates somewhat more for those groups who are already most at risk, however. For instance, adjusted poverty rates among divorced and never-married women in the late boomer cohort would increase by 3 percentage points, to 10 and 11 percent, respectively. Workers with lower lifetime earnings would also see larger increases in poverty rates. These groups receive a greater share of their income from Social Security, so reductions in Social Security benefits would have a greater impact.

Next, we examine the projected share of individuals at age 67 with incomes less than 200 percent of the federal poverty level (table 22). Increasing health care costs, including nursing home and home health care expenditures, could increase significantly the future consumption needs of the elderly. Therefore, using a threshold of 200 percent of the federal poverty level can

provide additional insights into the share of individuals at risk for not being able to meet their consumption needs. Doubling the consumption need threshold from one to two times the federal poverty level would quadruple the share of current retirees who could not meet their consumption needs. Thirty-two percent of current retirees are estimated to have incomes less than 200 percent of poverty, but this share is projected to decline to 15 percent among late boomers. Nevertheless, one-third or more of vulnerable groups, such as divorced and never-married women, high school dropouts, and individuals in the lowest lifetime earnings quintiles, are projected to have incomes less than 200 percent of the poverty level.

Projecting poverty rates addresses the goal of ensuring that retirees are able to meet their consumption needs. If another goal of policy is to prevent retirees from falling behind relative to the average living standards of workers, then it would be important to also assess retirees' incomes relative to workers' incomes. To this end, we examine the share of retirees with incomes less than 45 percent of the national average wage—the definition of low wage earners used by OCACT and a minimum standard of well-being for our purposes. Using this measure of retirement well-being, we find that retirees are far more likely to have per capita incomes less than 45 percent of the national average wage than they are to have incomes below the poverty threshold (table 23 and appendix table 18). The share of current retirees with per capita incomes less than 45 percent of the national average wage is about four times that of the share in poverty. Unlike poverty rates, which decline over time, the share of retirees with per capita incomes less than 45 percent of the national average wage is projected to remain at about one-third.

These findings reflect that poverty thresholds increase with inflation, but wages increase faster than inflation.²³ For instance, in 1993, \$8,740 was the poverty threshold for married couples ages 65 or older and \$10,410 was 45 percent of the national average wage. By 2032, the gap between these amounts is projected to increase considerably—the poverty threshold will increase to \$26,117, and 45 percent of the national average wage will increase to \$52,585.

Demographic and economic subgroups that are most at risk of having per capita incomes less than 45 percent of the national average wage are also those most at risk of poverty, namely divorced and never-married women, blacks and Hispanics, high school dropouts, individuals with fewer years of labor force experience, and low earners. Although nearly all subgroups are less likely over time to be in poverty, certain subgroups are more likely over time to have per capita incomes less than 45 percent of the national average wage. These subgroups include married women, widowed men, individuals with fewer years of work experience, and low earners.

VIII. CONCLUSION

As the boomer cohorts move toward retirement, it is increasingly important to assess their prospects for retirement security. This study uses the Urban Institute's DYNASIM model to project wealth and income at retirement for current and future retirees. The results point to some signs for optimism. The boomer cohorts are expected to accumulate more wealth and will receive more income in real terms at retirement than did previous generations. Relative to early

²³ Based on the intermediate assumptions in Table V.B1 of the 2002 OASDI Trustees Report.

boomers, though, late boomers will accumulate less wealth and receive no more income at retirement. Although demographic shifts account for much of the decline among late boomers, projected declines in financial wealth could also result in part from decreased saving among late boomers.

The news on whether the increased income and wealth at retirement among boomers translates to better well-being in retirement is also somewhat mixed. On the one hand, well-being in retirement relative to well-being during working years, measured by replacement rates, is expected to increase only marginally among early baby boom cohorts and to decline for late baby boom cohorts. Although their real incomes will be higher than those of earlier cohorts, boomers will not achieve higher replacement rates than will current retirees in retirement. In fact, late boomers will be less likely than current retirees to maintain their pre-retirement standard of living, as defined by their per capita shared earnings between ages 50 and 54.

On the other hand, poverty rates are projected to decline substantially over time, in large part because of the effects of higher earnings on real Social Security benefits and other retirement income and because poverty thresholds are not adjusted to reflect real-wage increases over time. Nevertheless, certain boomer subgroups will remain especially vulnerable, including never-married and divorced women, blacks, high school dropouts, and those with a weak labor force attachment. Furthermore, the share of retirees with per capita incomes less than 45 percent of the national average wage is projected to remain relatively constant over time, suggesting no improvements in the well-being of retirees compared with that of workers.

In other words, our conclusions differ depending on whether economic well-being is assessed on an absolute or a relative basis. In absolute terms, measured by real household incomes and poverty rates, boomers will be better off than current retirees. But in relative terms (e.g., post-retirement income relative to pre-retirement income and relative to workers' incomes), boomers will be no better and, in some cases, worse off than current retirees.

Our findings are more optimistic than those of some other studies that have assessed the adequacy of retirement savings. A key difference between DYNASIM projections and other estimates is that DYNASIM projects a broad measure of income that includes not only Social Security and private pension income, but also income from earnings and annuitized income from financial assets. This more comprehensive measure gauges better the household resources available to meet retirement consumption needs. Even with this more comprehensive income measure, however, our results suggest that boomers, especially those at the tail, need to increase their savings or work longer if they desire to maintain their real living standards. This additional savings might not be as much as earlier studies would suggest, though.

This analysis focuses on retirement wealth and income as of age 67. Our income estimates may overstate adequacy at later ages because health care costs typically increase as retirees grow older, thereby increasing their consumption needs. In addition, the income estimates assume that retirees convert their financial assets to real annuities, which preserve the value of income throughout retirement. Retirees who choose to forgo annuities, however, run the risk of depleting their resources before they die, thus reducing their retirement well-being in later years. On the other hand, some retirees may consume conservatively and risk dying with

substantial assets that they could have used to increase consumption and well-being while alive (Munnell et al. 2002). In any case, further research is needed to examine how outcomes may change at later ages and how different post-retirement consumption patterns may affect these outcomes.

The baseline Social Security wealth estimates in this study are based on the assumption that current-law benefits will be payable throughout the projection period. Because the Social Security system is out of long-term actuarial balance, we ran an alternative projection that cut current and future benefits by 13 percent beginning in 2004, an amount that would keep the trust funds in balance over the next 75 years. For current retirees, who are age 67 between the years 1993 and 2002, replacement rates and poverty rates at age 67 would be unaffected by this benefit cut. However, replacement rates would decrease slightly and adjusted poverty rates would increase slightly for the majority of near-retirees, as well as for all early and late boomers. Although no behavioral impacts of the changes to the Social Security system were incorporated under the alternative projection, workers could change their retirement timing or savings patterns to adjust to the new benefit structure. More research is needed to incorporate these behavioral changes into alternative simulations as well as to determine how other potential changes made to Social Security to bring the system into long-run actuarial balance (e.g., payroll tax increases) could affect retirement well-being among boomers.

Finally, although financial planners typically suggest that retirees need about 60 to 80 percent of pre-retirement earnings to meet post-retirement consumption needs, it is unclear whether this goal is sufficient, especially in light of ever-increasing health care spending. To create a proxy for potential increased consumption needs, we examined the share of retirees with income below 200 percent of the federal poverty level and found that the share of current retirees who could not meet their consumption needs quadrupled. Given the considerable sensitivity of our results to assumptions about the level of retirement needs, additional research is needed to examine more fully the consumption needs of the elderly.

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Table 1. Projected Characteristics of Individuals at Age 67

	Birth Cohort			
	1926-35	1936-45	1946-55	1956-65
Total	100%	100%	100%	100%
Gender				
Female	55	54	54	53
Male	45	46	46	47
Marital Status				
Married	67	67	66	62
Widowed	18	12	10	10
Divorced	11	15	16	16
Never married	5	6	9	12
Gender and Marital Status				
Female: Married	30	31	31	30
Female: Widowed	15	10	8	8
Female: Divorced	7	10	10	10
Female: Never married	3	3	4	6
Male: Married	36	36	34	33
Male: Widowed	3	2	2	2
Male: Divorced	4	5	5	6
Male: Never married	2	3	4	6
Race/Ethnicity				
White, non-hispanic	82	80	78	75
Black, non-hispanic	9	9	9	10
Hispanic	6	8	8	11
Other	3	3	4	4
Education				
High school dropout	28	17	10	10
High school graduate	55	59	59	61
College graduate	17	24	31	29
MEAN VALUES				
Years in the labor force	25	28	30	31
Lifetime earnings (own) ^a	\$18,000	\$25,000	\$30,000	\$35,000
Lifetime earnings (shared) ^b	\$18,000	\$25,000	\$30,000	\$35,000
Retirement age ^c	59.0	59.4	59.7	59.7

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62.

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where per capita shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

^cRetirement age represents the age at which a worker experiences a significant drop in earnings, signifying substantial withdrawal from the labor force.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 2. Mean Household Wealth of Individuals at Age 67 (in thousands, \$2003)

	Birth Cohort			
	1926-35	1936-45	1946-55	1956-65
Total	\$558	\$703	\$859	\$839
Gender				
Female	540	647	820	820
Male	578	769	904	861
Marital Status				
Married	671	849	1,054	1,016
Widowed	383	493	611	630
Divorced	282	384	432	527
Never married	259	321	431	492
Gender and Marital Status				
Female: Married	719	844	1,086	1,048
Female: Widowed	372	473	580	616
Female: Divorced	248	334	386	502
Female: Never married	220	232	367	453
Male: Married	632	852	1,024	988
Male: Widowed	436	591	735	674
Male: Divorced	338	472	517	570
Male: Never married	316	413	500	530
Race/Ethnicity				
White, non-hispanic	604	768	945	913
Black, non-hispanic	323	365	420	503
Hispanic	327	414	482	613
Other	419	687	959	924
Education				
High school dropout	333	339	353	424
High school graduate	555	625	677	681
College graduate	938	1,145	1,378	1,308
Labor Force Experience				
Less than 20 years	492	592	636	612
20 to 29 years	513	621	699	637
30 to 34 years	540	634	818	783
35 or more years	643	831	1,032	995
Lifetime Earnings (Own)^a				
1st Quintile	466	587	616	583
2nd Quintile	477	571	633	611
3rd Quintile	473	568	741	687
4th Quintile	536	670	848	871
5th Quintile	836	1,119	1,454	1,443
Lifetime Earnings (Shared)^b				
1st Quintile	299	393	437	411
2nd Quintile	394	479	496	518
3rd Quintile	544	617	690	688
4th Quintile	678	829	962	958
5th Quintile	873	1,198	1,708	1,619
Household Wealth				
1st Quintile	126	163	195	230
2nd Quintile	285	339	385	417
3rd Quintile	451	524	593	613
4th Quintile	674	799	914	906
5th Quintile	1,251	1,691	2,206	2,028

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 3. Median Household Wealth of Individuals at Age 67 (in thousands, \$2003)

	Birth Cohort			
	1926-35	1936-45	1946-55	1956-65
Total	\$448	\$520	\$589	\$609
Gender				
Female	427	475	550	601
Male	468	573	628	621
Marital Status				
Married	569	654	761	761
Widowed	307	377	425	464
Divorced	196	275	319	387
Never married	148	203	286	340
Gender and Marital Status				
Female: Married	636	654	783	781
Female: Widowed	304	365	416	467
Female: Divorced	190	244	302	385
Female: Never married	115	148	264	335
Male: Married	522	655	741	742
Male: Widowed	356	452	451	457
Male: Divorced	224	346	365	392
Male: Never married	172	236	315	344
Race/Ethnicity				
White, non-hispanic	498	582	656	670
Black, non-hispanic	229	261	328	406
Hispanic	228	299	353	457
Other	308	456	648	649
Education				
High school dropout	272	274	279	351
High school graduate	480	502	516	543
College graduate	812	914	1,010	987
Labor Force Experience				
Less than 20 years	379	418	428	428
20 to 29 years	401	449	448	466
30 to 34 years	415	472	560	572
35 or more years	540	628	725	738
Lifetime Earnings (Own)^a				
1st Quintile	356	420	409	411
2nd Quintile	367	390	417	438
3rd Quintile	364	421	493	526
4th Quintile	440	528	622	706
5th Quintile	701	885	1,068	1,105
Lifetime Earnings (Shared)^b				
1st Quintile	204	251	272	310
2nd Quintile	330	362	401	448
3rd Quintile	460	506	577	601
4th Quintile	589	695	801	821
5th Quintile	755	966	1,246	1,264

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 4. Household Wealth at Age 67, by Source

Percent with Wealth at Age 67

	Total			
	1926-35	1936-45	1946-55	1956-65
Total Wealth	99%	100%	100%	100%
Non-Retirement Wealth	94	97	98	99
Financial Wealth	90	91	93	93
Housing Wealth	79	83	85	83
Retirement Wealth	98	99	100	100
Household Social Security Wealth	96	97	98	99
Own Social Security Wealth	96	97	97	98
Spouse Social Security Wealth	61	62	61	58
Household DB Pension Wealth	51	48	47	47
Own DB Pension Wealth	37	36	36	35
Spouse DB Pension Wealth	23	20	19	18
Household Retirement Accounts	46	54	62	65
Own Retirement Accounts	38	44	49	52
Spouse Retirement Accounts	27	30	32	31

Mean Household Wealth at Age 67 (in thousands, \$2003)

	Total			
	1926-35	1936-45	1946-55	1956-65
Total Wealth	\$558	\$703	\$859	\$839
Non-Retirement Wealth	228	316	402	335
Financial Wealth	132	175	235	195
Housing Wealth	96	141	167	141
Retirement Wealth	329	387	457	503
Own Social Security Wealth	142	157	186	207
Spouse Social Security Wealth	64	74	88	94
Own DB Pension Wealth	55	45	40	41
Spouse DB Pension Wealth	35	25	22	21
Own Retirement Accounts	20	53	72	87
Spouse Retirement Accounts	14	33	47	53

Share of Mean Household Wealth at Age 67

	Total			
	1926-35	1936-45	1946-55	1956-65
Total Wealth	100%	100%	100%	100%
Non-Retirement Wealth	41	45	47	40
Financial Wealth	24	25	27	23
Housing Wealth	17	20	19	17
Retirement Wealth	59	55	53	60
Own Social Security Wealth	25	22	22	25
Spouse Social Security Wealth	11	11	10	11
Own DB Pension Wealth	10	6	5	5
Spouse DB Pension Wealth	6	3	3	2
Own Retirement Accounts	4	8	8	10
Spouse Retirement Accounts	2	5	6	6

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 5. Wealth of the Median 10% of Wealth Holders at Age 67, by Source

Mean Household Wealth of Median 10% of Wealth Holders (in thousands, \$2003)

	Total			
	1926-35	1936-45	1946-55	1956-65
Total Wealth	\$449	\$521	\$590	\$611
Non-Retirement Wealth	149	184	195	175
Financial Wealth	61	76	86	85
Housing Wealth	88	109	109	89
Retirement Wealth	300	337	395	436
Own Social Security Wealth	150	165	194	205
Spouse Social Security Wealth	66	80	88	102
Own DB Pension Wealth	47	38	37	35
Spouse DB Pension Wealth	18	16	15	16
Own Retirement Accounts	14	26	44	55
Spouse Retirement Accounts	5	12	18	23

Share of Mean Wealth for the Median 10% of Wealth Holders at Age 67

	Total			
	1926-35	1936-45	1946-55	1956-65
Total Wealth	100%	100%	100%	100%
Non-Retirement Wealth	33	35	33	29
Financial Wealth	14	15	15	14
Housing Wealth	20	21	18	15
Retirement Wealth	67	65	67	71
Own Social Security Wealth	33	32	33	34
Spouse Social Security Wealth	15	15	15	17
Own DB Pension Wealth	10	7	6	6
Spouse DB Pension Wealth	4	3	2	3
Own Retirement Accounts	3	5	7	9
Spouse Retirement Accounts	1	2	3	4

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 6. Comparison of DYNASIM and Moore/Mitchell Household Wealth Estimates (in thousands, \$2003)

	Moore&Mitchell	Dynasim	Dynasim
Birth cohort	1931-1941	1926-1935	1936-1945
Projection age	65	67	67
Mean			
Total Wealth	\$816	\$558	\$703
Net Financial	298	132	175
Net Housing	105	96	141
SS Wealth	185	205	232
Pension Wealth	228	124	155
Mean of the Median 10%			
Total Wealth	\$549	\$449	\$521
Net Financial	93	61	76
Net Housing	98	88	109
SS Wealth	210	216	245
Pension Wealth	148	84	92

Sources: The Urban Institute's tabulations of Moore and Mitchell (2000) and DYNASIM3 (see text for details).

Table 7. Comparison of DYNASIM and Wolff Household Wealth Estimates (in thousands, \$2003)

Wolff Wealth Estimates for 1998

Birth cohort	1928-1933	1934-1939	1940-1945	1946-1951
Age in 1998	65-70	59-64	53-58	47-52
Mean				
Total Wealth	\$834	\$930	\$701	\$567
Net Financial	351	424	341	268
Net Housing	120	118	89	81
SS Wealth	188	170	139	118
Pension wealth				
DB	114	99	57	40
DC	62	118	74	58
Median				
Net Financial + DC	61	95	55	52
Net Housing	78	73	58	47
DB+DC+SS	288	243	198	169

DYNASIM Wealth Projections at age 67

Birth cohort	1926-1935	1936-1945	1946-1955	1956-1965
Mean				
Total wealth	\$558	\$703	\$859	\$839
Net Financial	132	175	235	195
Net Housing	96	141	167	141
SS Wealth	205	232	274	301
Pension wealth				
DB	90	69	63	62
DC	34	86	119	140
Mean of the Median 10%				
Net Financial + DC	80	114	148	163
Net Housing	88	109	109	89
DB+DC+SS	300	337	395	436

Sources: The Urban Institute's tabulations of Wolff (2002) and DYNASIM3 (see text for details).

Table 8. Mean Household Income at Age 67 (in thousands, \$2003)

	Birth Cohort			
	1926-35	1936-45	1946-55	1956-65
Total	\$44	\$55	\$65	\$65
Gender				
Female	41	49	61	62
Male	49	62	71	70
Marital Status				
Married	53	66	79	79
Widowed	30	38	45	46
Divorced	25	31	35	40
Never married	25	33	40	44
Gender and Marital Status				
Female: Married	53	63	78	78
Female: Widowed	28	35	43	44
Female: Divorced	21	26	31	37
Female: Never married	22	26	37	42
Male: Married	53	67	79	79
Male: Widowed	37	51	54	55
Male: Divorced	31	41	43	46
Male: Never married	29	40	45	46
Race/Ethnicity				
White, non-hispanic	47	58	69	68
Black, non-hispanic	34	38	47	55
Hispanic	32	39	46	55
Other	42	61	76	77
Education				
High school dropout	29	32	37	41
High school graduate	44	50	54	55
College graduate	72	83	96	94
Labor Force Experience				
Less than 20 years	38	45	46	44
20 to 29 years	40	47	53	49
30 to 34 years	43	48	60	60
35 or more years	52	67	80	79
Lifetime Earnings (Own)^a				
1st Quintile	37	44	46	45
2nd Quintile	37	45	50	48
3rd Quintile	37	45	58	55
4th Quintile	44	54	67	70
5th Quintile	67	87	106	107
Lifetime Earnings (Shared)^b				
1st Quintile	28	33	36	34
2nd Quintile	32	38	42	44
3rd Quintile	41	49	55	56
4th Quintile	52	64	75	75
5th Quintile	69	92	119	117
Household Income				
1st Quintile	12	14	16	17
2nd Quintile	23	28	32	33
3rd Quintile	36	44	50	50
4th Quintile	54	66	75	76
5th Quintile	98	124	153	149

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 9. Median Household Income at Age 67 (in thousands, \$2003)

	Birth Cohort			
	1926-35	1936-45	1946-55	1956-65
Total	\$36	\$44	\$50	\$50
Gender				
Female	32	39	46	47
Male	40	49	55	53
Marital Status				
Married	44	53	62	63
Widowed	21	28	31	33
Divorced	17	21	24	28
Never married	18	21	28	32
Gender and Marital Status				
Female: Married	44	52	61	63
Female: Widowed	20	26	30	33
Female: Divorced	14	18	21	26
Female: Never married	17	18	25	30
Male: Married	44	54	63	64
Male: Widowed	30	38	37	36
Male: Divorced	22	30	31	33
Male: Never married	20	26	33	34
Race/Ethnicity				
White, non-hispanic	38	47	53	52
Black, non-hispanic	23	30	36	42
Hispanic	22	28	37	43
Other	37	51	63	57
Education				
High school dropout	23	25	27	32
High school graduate	37	41	43	44
College graduate	63	70	76	76
Labor Force Experience				
Less than 20 years	30	34	35	31
20 to 29 years	32	36	38	37
30 to 34 years	34	37	47	46
35 or more years	43	53	64	64
Lifetime Earnings (Own)^a				
1st Quintile	29	34	35	32
2nd Quintile	28	33	36	36
3rd Quintile	28	35	43	43
4th Quintile	37	45	54	59
5th Quintile	60	74	86	88
Lifetime Earnings (Shared)^b				
1st Quintile	20	22	24	24
2nd Quintile	26	30	33	36
3rd Quintile	34	42	46	48
4th Quintile	45	54	65	65
5th Quintile	61	79	94	98
Household Income				
1st Quintile	12	14	16	18
2nd Quintile	22	28	31	33
3rd Quintile	36	44	50	50
4th Quintile	54	66	74	76
5th Quintile	86	109	125	128

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 10. Household Income at Age 67, by Source

Percent with Income at Age 67

	Total			
	1926-35	1936-45	1946-55	1956-65
Total Income	100%	100%	100%	100%
Non-Retirement Income	98	99	99	99
Financial Income	90	91	93	93
Imputed Rental Income	79	83	85	83
Earnings	23	25	26	27
Spouse Earnings	17	19	20	19
SSI Benefits	8	4	2	1
Spouse SSI Benefits	2	1	1	0
Co-resident Income	16	14	14	14
Retirement Income	98	99	99	99
Social Security Benefits	97	97	97	98
Spouse Social Security Benefits	54	54	53	52
DB Pension Benefits	37	36	36	35
Spouse DB Pension Benefits	23	20	19	18
Retirement Accounts	38	44	49	52
Spouse Retirement Accounts	27	30	32	31

Mean Household Income at Age 67 (in thousands, \$2003)

	Total			
	1926-35	1936-45	1946-55	1956-65
Total Income	\$44	\$55	\$65	\$65
Non-Retirement Income	21	27	34	31
Financial Income	8	10	13	11
Imputed Rental Income	3	4	5	4
Earnings	4	5	6	6
Spouse Earnings	3	4	6	6
SSI Benefits	0	0	0	0
Spouse SSI Benefits	0	0	0	0
Co-resident Income	3	4	4	5
Retirement Income	24	28	31	34
Social Security Benefits	9	11	13	14
Spouse Social Security Benefits	5	6	7	7
DB Pension Benefits	5	4	3	3
Spouse DB Pension Benefits	3	2	2	2
Retirement Accounts	1	3	4	5
Spouse Retirement Accounts	1	2	3	3

Share of Mean Household Income at Age 67

	Total			
	1926-35	1936-45	1946-55	1956-65
Total Income	100%	100%	100%	100%
Non-Retirement Income	47	50	52	48
Financial Income	17	18	20	16
Imputed Rental Income	7	8	8	6
Earnings	8	9	8	9
Spouse Earnings	7	8	9	9
SSI Benefits	1	0	0	0
Spouse SSI Benefits	0	0	0	0
Co-resident Income	7	7	7	7
Retirement Income	53	50	48	52
Social Security Benefits	20	20	20	22
Spouse Social Security Benefits	11	10	10	11
DB Pension Benefits	11	7	5	5
Spouse DB Pension Benefits	7	4	3	3
Retirement Accounts	3	5	6	7
Spouse Retirement Accounts	2	3	4	5

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 11. Household Income for the Median 10% of Income Recipients, by Source

Mean Household Income of the Median 10% of Income Recipients (in thousands, \$2003)

	Total			
	1926-35	1936-45	1946-55	1956-65
Total Income	\$36	\$44	\$50	\$50
Non-Retirement Income	12	17	20	18
Financial Income	5	6	6	6
Imputed Rental Income	3	4	5	3
Earnings	1	2	3	3
Spouse Earnings	1	2	3	3
SSI Benefits	0	0	0	0
Spouse SSI Benefits	0	0	0	0
Co-resident Income	2	2	3	2
Retirement Income	23	27	30	32
Social Security Benefits	9	11	13	14
Spouse Social Security Benefits	6	7	7	8
DB Pension Benefits	4	3	3	3
Spouse DB Pension Benefits	2	2	2	2
Retirement Accounts	1	2	3	3
Spouse Retirement Accounts	1	1	2	2

Share of Mean Household Income of the Median 10% of Income Recipients

	Total			
	1926-35	1936-45	1946-55	1956-65
Total Income	100%	100%	100%	100%
Non-Retirement Income	35	38	40	36
Financial Income	13	13	12	12
Imputed Rental Income	8	9	9	6
Earnings	4	5	6	7
Spouse Earnings	4	6	7	6
SSI Benefits	0	0	0	0
Spouse SSI Benefits	0	0	0	0
Co-resident Income	5	5	6	4
Retirement Income	65	62	60	64
Social Security Benefits	25	26	26	28
Spouse Social Security Benefits	17	16	15	16
DB Pension Benefits	12	7	6	7
Spouse DB Pension Benefits	7	5	4	3
Retirement Accounts	3	5	6	7
Spouse Retirement Accounts	2	3	3	3

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 12. Comparison of DYNASIM and Wolff Household Income Estimates (in thousands, \$2003)

Wolff (2002) Expected Retirement Income Estimates for 1998

Birth cohort	1934-36	1937-40	1940-42	1943-45	1946-48	1949-51
Age in 1998	62-64	59-61	56-58	53-55	50-52	47-49
Mean						
Financial+DC	\$33	\$43	\$30	\$29	\$25	\$21
Housing	7	9	6	6	6	5
DB+Social Security	19	23	20	21	22	22
Total Income	58	75	56	56	53	48

DYNASIM Income Projections at Age 67

Birth cohort	1926-35	1936-45	1946-55	1956-65
Mean				
Financial+DC	\$10	\$15	\$19	\$18
Housing	3	4	5	4
DB+Social Security	22	23	25	26
Total Income	34	42	49	49

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 13. Median Replacement Rates^a at Age 67

	Birth Cohort			
	1926-35	1936-45	1946-55	1956-65
Total	87%	86%	88%	80%
Gender				
Female	89	87	86	76
Male	85	85	90	84
Marital Status				
Married	86	84	86	77
Widowed	89	107	112	101
Divorced	78	78	81	73
Never married	105	96	92	89
Gender and Marital Status				
Female: Married	91	85	86	75
Female: Widowed	83	106	109	97
Female: Divorced	78	71	73	64
Female: Never married	128	89	82	78
Male: Married	84	82	86	79
Male: Widowed	122	116	119	110
Male: Divorced	79	95	96	89
Male: Never married	82	98	102	104
Race/Ethnicity				
White, non-hispanic	86	84	86	78
Black, non-hispanic	82	107	114	105
Hispanic	100	82	85	77
Other	102	82	79	72
Education				
High school dropout	83	87	99	83
High school graduate	84	83	84	78
College graduate	100	93	91	83
Labor Force Experience				
Less than 20 years	123	128	156	143
20 to 29 years	84	81	88	77
30 to 34 years	74	74	78	71
35 or more years	78	81	84	79
Lifetime Earnings (Own)^b				
1st Quintile	162	149	125	101
2nd Quintile	91	83	84	76
3rd Quintile	73	77	82	73
4th Quintile	76	76	79	76
5th Quintile	81	81	86	81
Lifetime Earnings (Shared)^c				
1st Quintile	326	165	144	115
2nd Quintile	87	83	85	75
3rd Quintile	77	80	77	73
4th Quintile	74	73	78	72
5th Quintile	73	81	87	82
Household Income				
1st Quintile	66	68	72	65
2nd Quintile	66	67	69	64
3rd Quintile	77	73	77	71
4th Quintile	90	89	86	81
5th Quintile	127	127	127	117

Notes:

^aReplacement rates are calculated as the ratio of per capita income at age 67 to the average per capita shared earnings for ages 50 to 54. Income includes Social Security benefits, DB pension benefits, annuitized income from financial assets and retirement accounts, earnings, and SSI income. It does not include co-resident income or imputed rental income.

^bOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^cShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 14. Distribution of Replacement Rates^a at Age 67

	< 25%				< 50%			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total	2%	2%	1%	1%	20%	20%	19%	20%
Married Men	3	2	2	2	21	23	20	19
Married Women	1	1	1	1	17	19	18	22
Nonmarried Men	4	2	1	1	21	18	15	14
Nonmarried Women	3	2	2	2	22	20	20	24

	< 75%				< 100%			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total	42%	42%	41%	46%	57%	59%	58%	64%
Married Men	44	45	42	46	61	62	59	65
Married Women	39	42	42	50	55	59	60	68
Nonmarried Men	40	36	34	33	51	52	49	51
Nonmarried Women	43	42	43	48	56	56	58	64

	< 200%			
	1926-35	1936-45	1946-55	1956-65
Total	81%	85%	84%	89%
Married Men	86	90	88	92
Married Women	82	85	86	91
Nonmarried Men	78	81	79	82
Nonmarried Women	75	78	80	85

Notes:

^aReplacement rates are calculated as the ratio of per capita income at age 67 to the average per capita shared earnings for ages 50 to 54. Income includes Social Security benefits, DB pension benefits, annuitized income from financial assets and retirement accounts, earnings, and SSI income. It does not include co-resident income or imputed rental income.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 15. Median Replacement Rates^a at Age 67, Assuming 13 Percent Reduction in Social Security Benefits

	Birth Cohort			
	1926-35	1936-45	1946-55	1956-65
Total	87%	81%	82%	75%
Gender				
Female	89	81	80	71
Male	85	80	84	79
Marital Status				
Married	86	79	81	73
Widowed	89	100	105	93
Divorced	78	72	75	68
Never married	105	90	85	83
Gender and Marital Status				
Female: Married	91	81	81	71
Female: Widowed	83	98	101	90
Female: Divorced	78	65	67	60
Female: Never married	128	84	75	72
Male: Married	84	77	82	75
Male: Widowed	122	107	113	104
Male: Divorced	79	88	91	83
Male: Never married	82	92	97	98
Race/Ethnicity				
White, non-hispanic	86	79	81	73
Black, non-hispanic	82	100	108	99
Hispanic	100	75	78	71
Other	102	77	75	68
Education				
High school dropout	83	80	91	76
High school graduate	84	77	79	73
College graduate	100	89	87	79
Labor Force Experience				
Less than 20 years	123	121	146	134
20 to 29 years	84	76	82	71
30 to 34 years	74	69	72	66
35 or more years	78	76	79	74
Lifetime Earnings (Own)^b				
1st Quintile	162	141	117	95
2nd Quintile	91	77	78	71
3rd Quintile	73	71	77	69
4th Quintile	76	71	74	71
5th Quintile	81	77	82	77
Lifetime Earnings (Shared)^c				
1st Quintile	326	154	135	106
2nd Quintile	87	77	79	69
3rd Quintile	77	74	72	68
4th Quintile	74	68	73	68
5th Quintile	73	77	83	78
Household Income				
1st Quintile	66	62	65	59
2nd Quintile	66	61	64	60
3rd Quintile	77	68	72	66
4th Quintile	90	84	82	77
5th Quintile	127	123	123	114

Notes:

^aReplacement rates are calculated as the ratio of per capita income at age 67 to the average per capita shared earnings for ages 50 to 54. Income includes Social Security benefits, DB pension benefits, annuitized income from financial assets and retirement accounts, earnings, and SSI income. It does not include co-resident income or imputed rental income.

^bOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^cShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 16. Sensitivity Analysis of Replacement Rates^a at Age 67, by Income Source

	Total			
	1926-35	1936-45	1946-55	1956-65
Total Income^b	87%	86%	88%	80%
Retirement Income^c (A)	57	53	54	52
A+Financial Income (B)	71	67	68	63
B+Earnings+SSI	87	86	88	80

	Married Men				Married Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Income^b	84%	82%	86%	79%	91%	85%	86%	75%
Retirement Income^c (A)	52	48	49	48	60	53	52	50
A+Financial Income (B)	65	60	61	58	77	68	67	61
B+Earnings+SSI	84	82	86	79	91	85	86	75

	Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Income^b	95%	98%	102%	98%	86%	88%	87%	78%
Retirement Income^c (A)	65	59	63	63	66	62	60	55
A+Financial Income (B)	77	79	82	81	76	76	73	66
B+Earnings+SSI	95	98	102	98	86	88	87	78

Notes:

^aReplacement rates are calculated as the ratio of per capita income at age 67 to the average per capita shared earnings for ages 50 to 54.

^bTotal income includes Social Security benefits, DB pension benefits, annuitized income from financial assets and retirement accounts, earnings, and SSI income. It does not include co-resident income or imputed rental income.

^cRetirement income includes Social Security benefits, DB pensions, and retirement accounts.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 17. Sensitivity Analysis of Replacement Rates at Age 67 by Denominator

	Per Capita Shared Earnings 50-54 ^a				PPer Capita Shared Earnings 22-62 ^b			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total	87%	86%	88%	80%	108%	95%	90%	83%
Married Men	84	82	86	79	102	89	87	80
Married Women	91	85	86	75	115	100	93	82
Nonmarried Men	95	98	102	98	107	98	97	93
Nonmarried Women	86	88	87	78	105	96	88	83

Note:

^aReplacement rates are calculated as the ratio of per capita income at age 67 to the average per capita shared earnings for ages 50 to 54. Income includes Social Security benefits, DB pension benefits, annuitized income from financial assets and retirement accounts, earnings, and SSI income. It does not include co-resident income or imputed rental income.

^bReplacement rates are calculated as the ratio of per capita income at age 67 to the average per capita shared earnings for ages 22 to 62. Income includes Social Security benefits, DB pension benefits, annuitized income from financial assets and retirement accounts, earnings, and SSI income. It does not include co-resident income or imputed rental income.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 18. Comparison of DYNASIM and Wolff Replacement Rates

Wolff (2002) Replacement Rates for 1998

	< 25%	< 50%	< 75%	< 100%
Age 56-64 (1934-42)	11%	34%	52%	67%
Age 47-55 (1943-51)	19	48	67	82
Non-Hispanic White	12	40	60	76
Black or Hispanic	20	53	60	73
Married Couple	10	37	59	75
Single Male	43	62	69	84
Single Female	15	45	63	74

DYNASIM Replacement Rates^a at age 67

	< 25%	< 50%	< 75%	< 100%
1926-35	2%	20%	42%	57%
1936-45	2%	20%	42%	59%
1946-55	1%	19%	41%	58%
1956-65	1%	20%	46%	64%

DYNASIM Replacement Rates^b at age 67 (excluding Earnings and SSI)

	< 25%	< 50%	< 75%	< 100%
1926-35	6%	29%	53%	67%
1936-45	5%	32%	56%	70%
1946-55	4%	31%	56%	71%
1956-65	4%	33%	62%	76%

Notes:

^aReplacement rates are calculated as the ratio of per capita income at age 67 to the average per capita shared earnings for ages 50 to 54.

Income includes Social Security benefits, DB pension benefits, annuitized income from financial assets and retirement accounts, earnings, and SSI income. It does not include co-resident income, or imputed rental income.

^bReplacement rates are calculated as the ratio of per capita income at age 67 to the average per capita shared earnings for ages 50 to 54.

Income includes Social Security benefits, DB pension benefits, annuitized income from financial assets and retirement accounts. It does not include earnings, SSI income, co-resident income, or imputed rental income.

Sources: The Urban Institute's tabulations of Wolff (2002) and DYNASIM3 (see text for details).

Table 19. Adjusted Poverty Rates at Age 67

	Birth Cohort			
	1926-35	1936-45	1946-55	1956-65
Total	8%	5%	4%	2%
Gender				
Female	10	7	5	3
Male	5	3	2	2
Marital Status				
Married	3	2	1	1
Widowed	12	6	4	2
Divorced	24	15	8	6
Never married	23	16	11	7
Gender and Marital Status				
Female: Married	3	2	2	1
Female: Widowed	13	6	4	2
Female: Divorced	32	21	11	7
Female: Never married	25	25	14	8
Male: Married	3	2	1	1
Male: Widowed	6	3	2	1
Male: Divorced	12	5	4	3
Male: Never married	19	7	6	6
Race/Ethnicity				
White, non-hispanic	6	4	3	2
Black, non-hispanic	14	12	8	6
Hispanic	17	13	6	3
Other	10	7	3	1
Education				
High school dropout	15	14	12	7
High school graduate	6	5	3	3
College graduate	2	1	1	1
Labor Force Experience				
Less than 20 years	13	12	13	12
20 to 29 years	10	7	4	4
30 to 34 years	5	4	2	1
35 or more years	3	1	1	0
Lifetime Earnings (Own)^a				
1st Quintile	14	13	12	10
2nd Quintile	14	10	5	2
3rd Quintile	9	4	1	0
4th Quintile	2	0	0	0
5th Quintile	0	0	0	0
Lifetime Earnings (Shared)^b				
1st Quintile	21	20	15	11
2nd Quintile	10	6	2	1
3rd Quintile	5	1	1	0
4th Quintile	3	0	0	0
5th Quintile	1	0	0	0

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 20. Composition of Population in Poverty (Using Adjusted Poverty Rates) at Age 67

	Birth Cohort			
	1926-35	1936-45	1946-55	1956-65
Total	100%	100%	100%	100%
Gender				
Female	72	75	73	63
Male	28	25	27	37
Marital Status				
Married	25	26	26	23
Widowed	26	13	12	9
Divorced	33	43	37	36
Never married	15	18	25	32
Gender and Marital Status				
Female: Married	10	11	14	8
Female: Widowed	24	12	10	8
Female: Divorced	27	38	30	29
Female: Never married	10	14	18	18
Male: Married	15	15	12	16
Male: Widowed	2	1	1	1
Male: Divorced	6	5	7	7
Male: Never married	5	4	7	14
Race/Ethnicity				
White, non-hispanic	67	57	60	57
Black, non-hispanic	16	20	21	27
Hispanic	13	18	15	15
Other	4	4	4	1
Education				
High school dropout	53	44	34	28
High school graduate	42	51	57	65
College graduate	5	5	9	7
Labor Force Experience				
Less than 20 years	52	56	57	58
20 to 29 years	26	26	28	29
30 to 34 years	8	10	9	8
35 or more years	13	7	7	5
Lifetime Earnings (Own)^a				
1st Quintile	36	48	69	84
2nd Quintile	35	37	28	15
3rd Quintile	22	14	3	1
4th Quintile	5	0	0	0
5th Quintile	1	0	0	0
Lifetime Earnings (Shared)^b				
1st Quintile	54	75	84	92
2nd Quintile	25	22	12	6
3rd Quintile	12	3	4	1
4th Quintile	7	0	0	0
5th Quintile	2	0	0	0

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 21. Adjusted Poverty Rates at Age 67, Assuming 13 Percent Reduction in Social Security Benefits

	Birth Cohort			
	1926-35	1936-45	1946-55	1956-65
Total	8%	7%	5%	3%
Gender				
Female	10	10	6	4
Male	5	4	3	3
Marital Status				
Married	3	3	2	1
Widowed	12	8	5	3
Divorced	24	20	12	8
Never married	23	21	14	9
Gender and Marital Status				
Female: Married	3	2	2	1
Female: Widowed	13	9	6	4
Female: Divorced	32	27	15	10
Female: Never married	25	29	18	11
Male: Married	3	3	2	2
Male: Widowed	6	5	4	2
Male: Divorced	12	8	6	5
Male: Never married	19	12	10	8
Race/Ethnicity				
White, non-hispanic	6	5	4	3
Black, non-hispanic	14	16	10	8
Hispanic	17	17	10	5
Other	10	9	4	2
Education				
High school dropout	15	18	17	10
High school graduate	6	6	5	4
College graduate	2	2	1	1
Labor Force Experience				
Less than 20 years	13	15	15	14
20 to 29 years	10	10	7	6
30 to 34 years	5	6	3	2
35 or more years	3	2	1	1
Lifetime Earnings (Own)^a				
1st Quintile	14	16	15	13
2nd Quintile	14	13	8	4
3rd Quintile	9	7	2	0
4th Quintile	2	0	0	0
5th Quintile	0	0	0	0
Lifetime Earnings (Shared)^b				
1st Quintile	21	25	20	15
2nd Quintile	10	9	4	2
3rd Quintile	5	2	1	0
4th Quintile	3	0	0	0
5th Quintile	1	0	0	0

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 22. Percent with Income at Age 67 Less than 200 Percent of the Federal Poverty Line

	Birth Cohort			
	1926-35	1936-45	1946-55	1956-65
Total	32%	23%	18%	15%
Gender				
Female	37	28	22	17
Male	25	17	14	12
Marital Status				
Married	20	13	10	7
Widowed	48	34	25	21
Divorced	61	47	40	30
Never married	62	48	36	28
Gender and Marital Status				
Female: Married	19	13	10	7
Female: Widowed	52	37	27	22
Female: Divorced	71	57	47	34
Female: Never married	68	58	41	33
Male: Married	21	13	10	8
Male: Widowed	30	20	19	16
Male: Divorced	45	29	27	23
Male: Never married	52	38	30	24
Race/Ethnicity				
White, non-hispanic	28	19	15	12
Black, non-hispanic	47	40	30	22
Hispanic	54	43	33	22
Other	41	25	15	13
Education				
High school dropout	51	46	44	33
High school graduate	28	23	20	16
College graduate	10	8	6	5
Labor Force Experience				
Less than 20 years	42	36	36	36
20 to 29 years	36	30	27	25
30 to 34 years	31	25	18	14
35 or more years	20	11	8	6
Lifetime Earnings (Own)^a				
1st Quintile	44	36	36	34
2nd Quintile	42	35	29	24
3rd Quintile	40	29	19	12
4th Quintile	24	13	6	3
5th Quintile	8	2	0	0
Lifetime Earnings (Shared)^b				
1st Quintile	59	52	48	44
2nd Quintile	46	36	27	19
3rd Quintile	27	17	11	7
4th Quintile	18	7	4	2
5th Quintile	8	2	1	0

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Table 23. Percent with Per Capita Income at Age 67 Less than 45 Percent of the National Average Wage

	Birth Cohort			
	1926-35	1936-45	1946-55	1956-65
Total	33%	34%	32%	33%
Gender				
Female	35	38	35	35
Male	31	30	29	31
Marital Status				
Married	30	32	29	32
Widowed	34	33	30	31
Divorced	46	44	43	39
Never married	40	43	36	33
Gender and Marital Status				
Female: Married	28	32	30	32
Female: Widowed	37	35	32	33
Female: Divorced	54	54	49	44
Female: Never married	44	52	41	37
Male: Married	31	31	29	32
Male: Widowed	21	20	24	25
Male: Divorced	33	26	30	29
Male: Never married	35	33	30	30
Race/Ethnicity				
White, non-hispanic	30	31	29	31
Black, non-hispanic	44	47	42	39
Hispanic	51	55	47	43
Other	36	33	27	31
Education				
High school dropout	52	60	57	57
High school graduate	30	36	37	38
College graduate	10	13	13	15
Labor Force Experience				
Less than 20 years	40	46	50	59
20 to 29 years	36	42	45	50
30 to 34 years	34	40	33	34
35 or more years	24	22	19	20
Lifetime Earnings (Own)^a				
1st Quintile	42	47	51	56
2nd Quintile	42	45	44	48
3rd Quintile	39	41	36	35
4th Quintile	29	29	22	19
5th Quintile	13	10	7	8
Lifetime Earnings (Shared)^b				
1st Quintile	56	60	61	67
2nd Quintile	47	51	50	49
3rd Quintile	30	35	31	31
4th Quintile	21	20	15	16
5th Quintile	10	6	4	3

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 1. Summary of Core Processes Modeled in DYNASIM

Process	Data	Form and predictors
Birth	<i>Estimation:</i> NLSY (1979–94); VS; <i>Target:</i> OCACT	7-equation parity progression model; varies on the basis of marital status; predictors include age, marriage duration, time since last birth; uses vital rates after age 39; sex of newborn assigned by race; probability of multiple birth assigned by age and race
Death	<i>Estimation:</i> NLMS (1979–81); VS (1982–97); <i>Target:</i> OCACT	3 equations; time trend from Vital Statistics 1982–1997; includes socioeconomic differentials; separate process for the disabled based on age, sex, age of disability onset, and disability duration derived from Zayatz (1999)
Schooling	NLSY (1979–94), CPS (Oct. 1995)	10 cross-tabulations based on age, race, sex, and parent’s education
Leaving Home	NLSY (1979–94)	3 equations; family size, parental resources, and school and work status are important predictors
First Marriage	NLSY (1979–93)	8 equations; depends on age, education, race, earnings, presence of children (for females); uses vital rates at older ages
Spouse Selection		Closed marriage market (spouse must be selected from among unmarried, opposite-sex persons in the population); match likelihood depends on age, race, education
Remarriage	VS (1990)	Table lookups, separate by sex for widowed and divorced
Divorce	PSID (1985–93)	Couple-level outcome; depends on marriage duration, age and presence of children, earnings of both spouses
Labor Supply and Earnings	<i>Estimation:</i> PSID (1980–93); NLSY (1979–89); <i>Target:</i> OCACT (LFP, wage/price growth)	Separate participation, hours decisions, wage rates for 16 age-race-sex groups; all equations have permanent and transitory error components; some wage equations correct for selection bias; key predictors include age splines, marital status, number and ages of children, job tenure, education level, region of residence, disability status, schooling status, unemployment level, and age spline–education-level interactions
Disability	SIPP (1990)	Separate entry (by sex)/exit (pooled) equations; include socio-economic differences (education, marital status, earnings history)
DI Take-up	SIPP (1990–93)	2 separate equations (by sex) predict take-up of those eligible for disabled worker benefits (ages 19 through the normal retirement age); key predictors include age, disability status, education, marital status, recent earnings

Appendix Table 1. Summary of Core Processes Modeled in DYNASIM3 (Continued)

Process	Data	Form and predictors
Pensions (DB, DC, IRAs, Keoghs)	BLS (1999-2000); EBRI/ICI; SIPP (1990-93); PENSIM (PSG) and PIMS models (PBGC)	Uses SIPP self-reports on past and current pension coverage with job changes and future coverage simulated using PENSIM; uses PIMS for DB formulas (with separate procedure for DBs from government jobs); DC balances projected using SIPP self-reports of account balances and contribution rates and EBRI/ICI data asset allocations and contribution rates for new participants
Wealth	PSID (1984-94); SIPP (1990-93)	4 random-effects models for ownership/value given ownership separately for housing and non-housing wealth; additional models for spend-down after first OASDI receipt; key predictors include age, race, marital status, family size, birth cohort, dual-earner status, pension coverage, recent earnings
OASI Take-up	SIPP (1990-93)	Eligibility is deterministic; 3 separate equations (separate for workers by lagged earnings, and auxiliary beneficiaries) predict take-up of those eligible for retired worker benefits (ages 62 and older); key predictors include age, disability status, education, marital status, recent earnings, pensions, lifetime earnings, and spouse characteristics; take-up of survivor benefits at 60 and 61 is deterministic (i.e., mandatory if earnings are below the exempt amount)
OASDI Benefits	Rule-based	Sophisticated calculator incorporates entire work and marriage histories, auxiliary benefits for spouses/survivors and former spouses, and the retirement earnings test.
SSI Benefits	SIPP (1990-93)	Eligibility is deterministic; 2 equations predict take-up of the aged; key predictors include demographics, state supplement, resources
Living Arrangements of the Aged	SIPP (1990-93)	Logistic regression that considers health, resources, and kin availability (number of children ever born); resources of co-residing family members are imputed using donor families sampled from current co-residing aged individuals in SIPP.
Immigration	SIPP (1990-93)	Replicate historical distribution of immigrant life histories, using target levels from Dowhan and Duleep (2002), which are based on sex, country of origin, and age at immigration

Abbreviations: BLS = Bureau of Labor Statistics; CPS = Current Population Survey; EBRI = Employee Benefits Research Institute; DB = defined benefit; DC = defined contribution; DI = Disability Insurance; ICI = Investment Company Institute; LFP = labor force participation; NLMS = National Longitudinal Mortality Study; NLSY = National Longitudinal Survey of Youth; OASDI = Old-Age, Survivors, and Disability Insurance; OCACT = Office of the Chief Actuary intermediate assumptions; PBGC = Pension Benefit Guarantee Corporation; PIMS =

Pension Insurance Modeling System; PSG = Policy Simulation Group; PSID = Panel Study of Income Dynamics; RHS = Retirement History Survey; SIPP = Survey of Income and Program Participation; VS = Vital Statistics

Appendix Table 2. Projected Characteristics of Individuals at Age 67, by Gender and Marital Status

	Married Men				Married Women				Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Marital Status																
Married	100	100	100	100	100	100	100	100								
Widowed									33	20	17	17	60	45	36	34
Divorced									44	52	47	41	28	42	44	42
Never married									23	28	35	42	13	13	19	24
Race/Ethnicity																
White, non-hispanic	84	82	79	76	86	83	80	75	76	80	79	76	77	74	73	72
Black, non-hispanic	7	6	7	8	5	6	7	10	16	11	10	11	13	15	16	14
Hispanic	6	8	9	11	6	8	8	11	5	6	8	10	8	8	8	10
Other	4	4	5	4	3	3	5	5	3	3	3	3	2	3	3	4
Education																
High school dropout	28	15	9	11	22	16	9	9	35	19	11	10	32	19	12	10
High school graduate	49	54	55	58	64	64	61	61	47	56	57	64	56	63	65	62
College graduate	22	31	36	32	14	20	30	29	18	26	31	26	12	18	22	28
MEAN VALUES																
Years in the labor force	33	34	33	34	19	23	27	29	32	33	31	32	20	24	28	29
Lifetime earnings (own) ^a	\$30,000	\$40,000	\$44,000	\$47,000	\$8,000	\$13,000	\$19,000	\$26,000	\$26,000	\$35,000	\$37,000	\$40,000	\$9,000	\$14,000	\$20,000	\$27,000
Lifetime earnings (shared) ^b	\$20,000	\$28,000	\$33,000	\$38,000	\$18,000	\$24,000	\$30,000	\$35,000	\$21,000	\$29,000	\$33,000	\$36,000	\$15,000	\$19,000	\$24,000	\$31,000
Retirement age ^c	60.9	61.7	61.5	61.2	57.1	57.2	58.4	58.4	59.6	59.8	59.5	59.3	58.0	58.3	58.9	59.3

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62.

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

^cRetirement age represents the age at which a worker experiences a significant drop in earnings, signifying substantial withdrawal from the labor force.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 3. Mean Household Wealth at Age 67, by Gender and Marital Status (in thousands, \$2003)

	Married Men				Married Women				Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total	\$632	\$852	\$1,024	\$988	\$719	\$844	\$1,086	\$1,048	\$365	\$479	\$549	\$571	\$319	\$383	\$453	\$529
Marital Status																
Married	632	852	1,024	988	719	844	1,086	1,048								
Widowed									436	591	735	674	372	473	580	616
Divorced									338	472	517	570	248	334	386	502
Never married									316	413	500	530	220	232	367	453
Race/Ethnicity																
White, non-hispanic	674	910	1,114	1,070	757	906	1,180	1,131	393	521	604	629	355	437	502	579
Black, non-hispanic	396	503	514	612	514	495	605	682	264	307	286	303	212	212	287	352
Hispanic	384	495	548	676	453	517	582	765	287	232	324	422	165	226	318	413
Other	477	922	1,139	1,078	448	746	1,074	1,149	311	475	581	537	249	289	501	542
Education																
High school dropout	359	400	430	498	488	442	450	532	210	208	215	277	217	207	233	279
High school graduate	606	727	767	776	701	782	900	896	383	412	409	430	334	361	397	443
College graduate	1,039	1,295	1,561	1,538	1,163	1,346	1,659	1,523	614	823	927	1,021	519	644	738	814
Labor Force Experience																
Less than 20 years	423	721	848	705	675	747	773	760	310	377	366	483	272	346	373	383
20 to 29 years	422	523	690	585	744	849	998	935	278	242	294	331	325	353	385	425
30 to 34 years	575	644	858	836	742	904	1,176	1,104	285	366	451	464	364	400	463	539
35 or more years	702	937	1,160	1,143	835	990	1,335	1,224	412	560	716	710	420	470	549	634
Lifetime Earnings (Own)^a																
1st Quintile	471	845	892	634	619	708	766	764	388	464	374	392	254	327	335	354
2nd Quintile	252	327	335	465	680	809	973	938	179	200	189	261	272	329	362	414
3rd Quintile	319	408	511	605	776	893	1,278	1,080	149	222	281	360	330	397	483	550
4th Quintile	497	643	755	794	1,051	1,220	1,523	1,399	333	403	442	535	563	540	643	712
5th Quintile	871	1,185	1,535	1,529	1,266	1,499	2,032	1,920	581	799	1,080	1,109	704	862	982	1,044
Lifetime Earnings (Shared)^b																
1st Quintile	334	557	592	489	429	504	573	541	218	326	290	318	192	225	268	294
2nd Quintile	395	516	534	585	549	621	667	652	215	264	267	321	288	341	350	389
3rd Quintile	562	645	746	748	709	778	878	870	295	316	383	432	354	434	477	499
4th Quintile	697	863	1,025	1,026	864	1,025	1,177	1,186	364	413	517	578	407	548	631	691
5th Quintile	945	1,324	1,826	1,794	1,072	1,451	2,178	1,991	549	777	1,075	1,139	595	759	957	1,064
Household Wealth																
1st Quintile	134	185	215	252	128	177	212	258	128	163	186	222	121	152	189	222
2nd Quintile	288	344	390	421	293	344	394	423	283	339	378	414	278	329	375	411
3rd Quintile	455	525	594	614	456	531	598	617	449	520	588	606	438	511	583	609
4th Quintile	671	799	916	907	681	801	918	911	657	799	891	903	670	792	901	890
5th Quintile	1,275	1,730	2,212	2,013	1,241	1,683	2,236	2,070	1,346	1,647	2,274	2,258	1,103	1,473	1,869	1,745

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 4. Median Household Wealth at Age 67, by Gender and Marital Status (in thousands, \$2003)

	Married Men				Married Women				Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total	\$522	\$655	\$741	\$742	\$636	\$654	\$783	\$781	\$261	\$340	\$364	\$388	\$255	\$284	\$330	\$399
Marital Status																
Married	522	655	741	742	636	654	783	781								
Widowed									356	452	451	457	304	365	416	467
Divorced									224	346	365	392	190	244	302	385
Never married									172	236	315	344	115	148	264	335
Race/Ethnicity																
White, non-hispanic	561	711	811	807	666	712	846	847	281	369	402	422	293	328	379	438
Black, non-hispanic	281	392	434	537	365	374	502	569	203	203	213	239	185	175	213	276
Hispanic	275	381	435	541	364	411	441	610	226	175	238	340	121	188	236	314
Other	456	583	806	789	377	575	903	744	136	365	367	411	185	226	398	401
Education																
High school dropout	310	332	361	418	430	384	346	448	157	178	172	240	187	168	203	239
High school graduate	542	604	612	657	644	634	694	709	314	323	324	353	276	286	312	363
College graduate	891	1,043	1,167	1,193	1,008	1,100	1,211	1,181	432	618	636	680	454	487	562	651
Labor Force Experience																
Less than 20 years	308	491	600	485	589	573	576	573	87	183	197	192	222	247	248	294
20 to 29 years	322	368	432	483	654	662	705	698	158	206	211	250	266	255	283	330
30 to 34 years	447	506	621	630	636	685	861	813	226	254	322	360	305	307	335	418
35 or more years	590	726	841	866	743	756	962	930	313	408	486	482	342	362	422	478
Lifetime Earnings (Own)^a																
1st Quintile	330	596	659	423	540	555	549	581	107	206	181	175	211	241	231	272
2nd Quintile	148	218	292	391	603	613	742	714	87	126	162	232	220	244	265	328
3rd Quintile	259	334	434	525	691	710	897	842	118	189	235	317	281	288	385	428
4th Quintile	430	542	626	701	897	973	1,126	1,113	279	329	386	462	506	445	503	590
5th Quintile	737	937	1,138	1,193	1,237	1,404	1,589	1,398	453	616	733	806	669	733	695	877
Lifetime Earnings (Shared)^b																
1st Quintile	232	386	370	367	327	364	389	423	107	160	164	197	140	167	192	237
2nd Quintile	348	385	445	515	490	485	539	573	148	200	222	288	240	251	291	335
3rd Quintile	488	542	633	658	642	640	727	739	217	252	338	385	305	341	393	433
4th Quintile	606	733	853	903	771	848	985	989	300	343	447	480	346	460	498	576
5th Quintile	823	1,053	1,363	1,426	924	1,174	1,582	1,611	439	588	702	819	546	629	695	892

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 5. Percent with Wealth Source at Age 67, by Gender and Marital Status

	Married Men				Married Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Wealth	100%	100%	100%	100%	100%	100%	100%	100%
Non-Retirement Wealth	97	99	100	100	98	99	100	100
Financial Wealth	93	93	95	94	95	93	95	94
Housing Wealth	86	92	93	91	90	91	94	92
Retirement Wealth	99	100	100	100	98	100	100	100
Household Social Security Wealth	97	98	99	99	97	98	99	99
Social Security Wealth	96	97	98	99	97	98	98	99
Spouse Social Security Wealth	90	91	91	92	95	95	94	95
Household DB Pension Wealth	56	53	52	52	62	54	53	54
DB Pension Wealth	50	44	41	38	23	25	30	31
Spouse DB Pension Wealth	18	19	24	24	54	42	36	35
Household Retirement Accounts	54	63	69	74	52	61	69	73
Retirement Accounts	46	51	51	54	38	41	48	49
Spouse Retirement Accounts	37	42	46	47	45	49	52	52

	Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Wealth	99%	100%	100%	100%	99%	99%	100%	100%
Non-Retirement Wealth	88	93	97	96	87	92	96	97
Financial Wealth	86	87	92	92	80	85	87	90
Housing Wealth	55	62	63	59	65	68	73	75
Retirement Wealth	98	99	99	99	96	97	99	99
Social Security Wealth	97	96	97	98	94	95	96	97
DB Pension Wealth	45	41	37	35	33	34	36	37
Retirement Accounts	34	39	50	52	30	39	47	51

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 6. Mean Household Wealth at Age 67, by Source, Gender, and Marital Status (in thousands, \$2003)

	Married Men				Married Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Wealth	\$632	\$852	\$1,024	\$988	\$719	\$844	\$1,086	\$1,048
Non-Retirement Wealth	270	387	483	390	291	379	523	417
Financial Wealth	160	216	284	231	172	212	312	241
Housing Wealth	110	172	199	159	119	167	211	176
Retirement Wealth	362	465	541	598	428	465	564	631
Own Social Security Wealth	141	179	208	223	139	137	169	193
Spouse Social Security Wealth	68	88	110	130	129	139	161	175
Own DB Pension Wealth	91	75	64	59	24	18	22	28
Spouse DB Pension Wealth	20	14	17	20	92	64	53	49
Own Retirement Accounts	29	80	100	113	15	32	51	66
Spouse Retirement Accounts	14	29	41	54	28	75	107	120

	Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Wealth	\$365	\$479	\$549	\$571	\$319	\$383	\$453	\$529
Non-Retirement Wealth	141	210	246	241	122	167	193	213
Financial Wealth	87	132	157	161	57	79	95	107
Housing Wealth	54	77	88	80	65	89	98	106
Retirement Wealth	224	269	303	330	197	215	261	316
Own Social Security Wealth	137	160	181	197	147	150	179	208
Own DB Pension Wealth	68	50	40	38	36	30	29	37
Own Retirement Accounts	19	59	82	95	14	35	52	71

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 7. Share of Mean Household Wealth at Age 67, by Source, Gender, and Marital Status

	Married Men				Married Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Wealth	100%	100%	100%	100%	100%	100%	100%	100%
Non-Retirement Wealth	43	45	47	40	40	45	48	40
Financial Wealth	25	25	28	23	24	25	29	23
Housing Wealth	17	20	19	16	17	20	19	17
Retirement Wealth	57	55	53	60	60	55	52	60
Own Social Security Wealth	22	21	20	23	19	16	16	18
Spouse Social Security Wealth	11	10	11	13	18	17	15	17
Own DB Pension Wealth	14	9	6	6	3	2	2	3
Spouse DB Pension Wealth	3	2	2	2	13	8	5	5
Own Retirement Accounts	5	9	10	11	2	4	5	6
Spouse Retirement Accounts	2	3	4	5	4	9	10	11

	Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Wealth	100%	100%	100%	100%	100%	100%	100%	100%
Non-Retirement Wealth	39	44	45	42	38	44	43	40
Financial Wealth	24	28	29	28	18	21	21	20
Housing Wealth	15	16	16	14	20	23	22	20
Retirement Wealth	61	56	55	58	62	56	57	60
Own Social Security Wealth	37	33	33	34	46	39	40	39
Own DB Pension Wealth	19	10	7	7	11	8	6	7
Own Retirement Accounts	5	12	15	17	4	9	11	13

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 8. Mean Household Wealth of the Median 10% of Wealth Holders at Age 67, by Source, Gender, and Marital Status (in thousands, \$2003)

	Married Men				Married Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Wealth	\$525	\$655	\$740	\$743	\$632	\$656	\$783	\$782
Non-Retirement Wealth	195	231	251	210	215	239	272	228
Financial Wealth	83	92	103	97	91	98	110	100
Housing Wealth	111	139	149	113	124	141	161	128
Retirement Wealth	330	424	489	534	417	417	512	554
Own Social Security Wealth	145	188	218	221	151	143	174	199
Spouse Social Security Wealth	68	91	116	136	141	145	171	182
Own DB Pension Wealth	78	71	59	53	14	13	23	25
Spouse DB Pension Wealth	12	13	18	16	81	60	52	43
Own Retirement Accounts	19	41	47	71	10	24	41	41
Spouse Retirement Accounts	9	20	30	37	20	32	50	64

	Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Wealth	\$259	\$336	\$365	\$389	\$256	\$284	\$332	\$401
Non-Retirement Wealth	71	118	113	119	73	92	102	126
Financial Wealth	37	55	57	72	23	35	43	56
Housing Wealth	34	63	55	47	51	57	59	70
Retirement Wealth	188	218	252	270	182	193	230	274
Own Social Security Wealth	143	170	191	198	157	162	188	210
Own DB Pension Wealth	36	37	27	25	19	19	23	31
Own Retirement Accounts	8	11	34	47	6	12	19	34

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 9. Share of Mean Household Wealth of the Median 10% of Wealth Holders at Age 67, by Source, Gender, and Marital Status

	Married Men				Married Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Wealth	100%	100%	100%	100%	100%	100%	100%	100%
Non-Retirement Wealth	37	35	34	28	34	36	35	29
Financial Wealth	16	14	14	13	14	15	14	13
Housing Wealth	21	21	20	15	20	21	21	16
Retirement Wealth	63	65	66	72	66	64	65	71
Own Social Security Wealth	28	29	29	30	24	22	22	25
Spouse Social Security Wealth	13	14	16	18	22	22	22	23
Own DB Pension Wealth	15	11	8	7	2	2	3	3
Spouse DB Pension Wealth	2	2	2	2	13	9	7	5
Own Retirement Accounts	4	6	6	10	2	4	5	5
Spouse Retirement Accounts	2	3	4	5	3	5	6	8

	Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Wealth	100%	100%	100%	100%	100%	100%	100%	100%
Non-Retirement Wealth	28	35	31	31	29	32	31	32
Financial Wealth	14	16	16	18	9	12	13	14
Housing Wealth	13	19	15	12	20	20	18	17
Retirement Wealth	72	65	69	69	71	68	69	68
Own Social Security Wealth	55	50	52	51	61	57	57	52
Own DB Pension Wealth	14	11	7	7	8	7	7	8
Own Retirement Accounts	3	3	9	12	2	4	6	8

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 10. Mean Household Income at Age 67, by Gender and Marital Status (in thousands, \$2003)

	Married Men				Married Women				Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total	\$53	\$67	\$79	\$79	\$53	\$63	\$78	\$78	\$32	\$42	\$45	\$47	\$25	\$30	\$36	\$41
Marital Status																
Married	53	67	79	79	53	63	78	78								
Widowed									37	51	54	55	28	35	43	44
Divorced									31	41	43	46	21	26	31	37
Never married									29	40	45	46	22	26	37	42
Race/Ethnicity																
White, non-hispanic	55	70	84	83	55	66	82	80	35	45	49	51	26	31	36	39
Black, non-hispanic	43	47	54	62	48	51	65	71	25	28	28	28	26	28	38	49
Hispanic	37	46	54	64	41	46	50	64	28	27	34	41	19	24	35	36
Other	45	79	89	92	47	61	84	91	29	52	50	47	29	32	43	48
Education																
High school dropout	33	36	43	47	38	40	45	48	19	22	23	28	20	23	29	30
High school graduate	51	60	66	67	52	59	67	68	35	39	37	39	25	28	32	35
College graduate	81	96	109	113	83	94	112	108	52	64	69	75	39	45	53	58
Labor Force Experience																
Less than 20 years	40	52	58	49	50	56	55	54	30	31	28	36	22	28	31	28
20 to 29 years	40	45	57	47	54	62	70	68	28	25	28	28	26	28	31	34
30 to 34 years	48	48	65	66	56	68	84	81	29	32	37	38	28	32	35	41
35 or more years	57	75	90	93	64	77	99	94	35	50	59	60	33	37	44	49
Lifetime Earnings (Own)^a																
1st Quintile	42	53	60	47	48	54	56	58	35	36	29	31	21	26	30	29
2nd Quintile	28	33	39	42	49	61	72	71	21	21	21	24	23	27	29	33
3rd Quintile	31	39	47	54	56	67	92	81	16	23	26	34	26	31	37	41
4th Quintile	43	53	64	70	79	90	107	103	29	38	40	47	40	42	51	55
5th Quintile	70	92	112	115	100	113	140	138	49	67	82	85	53	60	68	72
Lifetime Earnings (Shared)^b																
1st Quintile	32	41	45	39	36	41	44	42	23	28	25	27	20	22	26	27
2nd Quintile	36	42	47	51	42	49	52	54	21	25	26	31	22	27	30	32
3rd Quintile	46	53	61	64	51	60	67	67	26	30	34	39	26	33	37	40
4th Quintile	57	69	84	85	61	73	86	88	32	37	44	49	30	41	47	50
5th Quintile	77	103	131	135	81	105	144	139	47	67	83	87	43	52	64	71
Household Income																
1st Quintile	13	15	18	19	14	16	17	20	11	14	15	17	11	13	15	16
2nd Quintile	23	28	32	34	23	29	32	34	22	27	31	32	22	27	31	32
3rd Quintile	36	44	50	51	36	44	51	51	34	43	50	50	35	43	50	50
4th Quintile	54	66	75	76	55	66	75	76	53	66	74	76	55	67	76	77
5th Quintile	100	127	153	151	99	124	158	152	98	116	155	155	79	100	125	125

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 11. Median Household Income at Age 67, by Gender and Marital Status (in thousands, \$2003)

	Married Men				Married Women				Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total	\$44	\$54	\$63	\$64	\$44	\$52	\$61	\$63	\$24	\$31	\$32	\$33	\$18	\$21	\$25	\$29
Marital Status																
Married	44	54	63	64	44	52	61	63								
Widowed									30	38	37	36	20	26	30	33
Divorced									22	30	31	33	14	18	21	26
Never married									20	26	33	34	17	18	25	30
Race/Ethnicity																
White, non-hispanic	46	57	67	66	46	54	64	64	26	33	34	37	19	23	26	30
Black, non-hispanic	31	41	46	53	32	43	56	56	18	20	23	23	18	18	22	29
Hispanic	28	35	46	54	35	36	45	53	22	19	22	32	13	14	20	22
Other	41	63	72	78	40	54	72	69	16	52	35	33	20	20	32	37
Education																
High school dropout	28	30	37	40	32	34	39	41	15	19	17	23	15	15	17	20
High school graduate	45	51	54	55	45	51	55	56	29	29	28	30	18	21	23	26
College graduate	71	83	88	94	75	78	89	89	41	54	51	53	32	36	41	44
Labor Force Experience																
Less than 20 years	32	41	48	38	42	47	46	44	18	19	19	15	16	18	19	20
20 to 29 years	33	32	41	40	45	52	53	54	17	18	21	22	18	20	21	22
30 to 34 years	40	39	54	54	47	57	68	66	23	21	27	30	21	23	23	29
35 or more years	49	61	73	76	56	63	78	78	27	37	45	46	25	28	33	38
Lifetime Earnings (Own)^a																
1st Quintile	35	42	51	38	40	45	45	46	21	19	19	16	16	18	19	20
2nd Quintile	20	21	31	36	41	50	59	56	15	18	15	20	16	19	21	24
3rd Quintile	26	32	40	47	47	55	71	66	14	19	22	29	20	23	29	32
4th Quintile	37	46	56	62	69	74	83	88	25	30	34	42	35	33	38	43
5th Quintile	62	79	91	98	103	101	110	112	38	54	62	67	44	52	60	62
Lifetime Earnings (Shared)^b																
1st Quintile	26	31	35	31	30	34	35	36	15	18	17	17	14	14	16	18
2nd Quintile	31	33	40	44	34	39	44	46	15	19	21	24	16	19	21	23
3rd Quintile	40	46	54	55	42	51	58	58	20	23	28	34	20	24	29	31
4th Quintile	50	59	74	77	55	64	75	77	25	30	39	43	23	33	34	39
5th Quintile	67	90	110	119	73	90	114	117	36	55	61	69	39	44	52	61
Household Income																
1st Quintile	14	16	18	20	14	17	18	21	11	14	16	17	11	13	15	17
2nd Quintile	23	29	32	34	23	29	32	34	22	27	31	32	21	26	30	32
3rd Quintile	36	44	50	51	36	44	51	50	34	42	49	49	34	43	49	49
4th Quintile	54	65	75	75	54	66	74	75	52	65	72	76	56	67	75	77
5th Quintile	89	112	127	132	87	109	127	129	92	101	124	122	75	91	110	114

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 12. Percent with Income Source at Age 67, by Gender and Marital Status

	Married Men				Married Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Income	100%	100%	100%	100%	100%	100%	100%	100%
Non-Retirement Income	99	100	100	100	99	100	100	100
Financial Income	93	93	95	94	95	93	95	94
Imputed Rental Income	86	92	93	91	90	91	94	92
Earnings	28	30	32	32	12	16	16	17
Spouse Earnings	28	29	30	30	22	26	30	30
SSI Benefits	4	2	1	1	3	2	1	0
Spouse SSI Benefits	3	1	1	0	3	2	1	0
Co-resident Income	12	11	12	11	14	13	13	13
Retirement Income	99	100	100	100	99	99	100	100
Social Security Benefits	97	97	98	99	98	98	98	99
Spouse Social Security Benefits	70	72	73	76	94	91	88	90
DB Pension Benefits	50	44	41	38	23	25	30	31
Spouse DB Pension Benefits	18	19	24	24	54	42	36	35
Retirement Accounts	46	51	51	54	38	41	48	49
Spouse Retirement Accounts	37	42	46	47	45	49	52	52

	Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Income	100%	100%	100%	100%	100%	100%	100%	100%
Non-Retirement Income	95	97	99	98	97	98	98	99
Financial Income	86	87	92	92	80	85	87	90
Imputed Rental Income	55	62	63	59	65	68	73	75
Earnings	27	27	28	31	26	28	29	30
SSI Benefits	10	4	2	2	17	9	4	2
Co-resident Income	16	17	14	15	23	19	20	18
Retirement Income	99	99	99	99	97	97	99	99
Social Security Benefits	98	96	97	98	96	94	96	97
DB Pension Benefits	45	41	37	35	32	34	36	37
Retirement Accounts	34	39	50	52	30	39	47	51

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 13. Mean Household Income at Age 67, by Source, Gender, and Marital Status (in thousands, \$2003)

	Married Men				Married Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Income	\$53	\$67	\$79	\$79	\$53	\$63	\$78	\$78
Non-Retirement Income	26	34	42	39	24	30	40	36
Financial Income	9	12	15	12	10	12	17	13
Imputed Rental Income	3	5	6	5	4	5	6	5
Earnings	8	9	10	10	1	1	2	3
Spouse Earnings	3	5	7	8	6	9	11	11
SSI Benefits	0	0	0	0	0	0	0	0
Spouse SSI Benefits	0	0	0	0	0	0	0	0
Co-resident Income	2	3	3	3	3	3	4	4
Retirement Income	27	34	38	41	30	33	38	42
Social Security Benefits	11	14	16	17	6	8	10	11
Spouse Social Security Benefits	4	6	7	8	10	12	13	14
DB Pension Benefits	8	6	5	5	2	1	2	2
Spouse DB Pension Benefits	2	1	1	2	9	6	5	4
Retirement Accounts	2	4	5	6	1	2	3	4
Spouse Retirement Accounts	1	2	2	3	2	4	6	7

	Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Income	\$32	\$42	\$45	\$47	\$25	\$30	\$36	\$41
Non-Retirement Income	15	21	22	23	13	16	19	21
Financial Income	6	9	10	10	3	4	5	5
Imputed Rental Income	2	2	3	2	2	3	3	3
Earnings	5	6	6	7	1	2	4	5
SSI Benefits	0	0	0	0	0	0	0	0
Co-resident Income	2	4	3	4	6	7	8	8
Retirement Income	18	21	23	25	12	14	17	20
Social Security Benefits	10	13	14	15	9	10	12	14
DB Pension Benefits	7	5	4	4	3	2	2	3
Retirement Accounts	1	4	5	6	1	2	3	3

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 14. Share of Mean Household Income at Age 67, by Source, Gender, and Marital Status

	Married Men				Married Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Income	100%	100%	100%	100%	100%	100%	100%	100%
Non-Retirement Income	48	50	53	49	44	48	51	46
Financial Income	17	17	19	16	20	19	22	17
Imputed Rental Income	6	8	8	6	7	8	8	7
Earnings	14	14	13	13	1	2	2	3
Spouse Earnings	6	7	9	11	12	14	14	14
SSI Benefits	0	0	0	0	0	0	0	0
Spouse SSI Benefits	0	0	0	0	0	0	0	0
Co-resident Income	4	4	4	4	5	5	4	5
Retirement Income	52	50	47	51	56	52	49	54
Social Security Benefits	21	21	20	21	12	12	12	14
Spouse Social Security Benefits	8	8	9	10	19	19	17	18
DB Pension Benefits	15	10	7	6	4	2	2	3
Spouse DB Pension Benefits	3	2	2	2	16	9	6	6
Retirement Accounts	3	6	7	8	2	3	4	5
Spouse Retirement Accounts	1	2	3	4	3	7	8	9

	Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Income	100%	100%	100%	100%	100%	100%	100%	100%
Non-Retirement Income	45	50	49	48	51	53	54	51
Financial Income	18	20	22	22	12	13	13	12
Imputed Rental Income	5	5	6	5	8	9	8	8
Earnings	14	15	14	14	6	7	10	12
SSI Benefits	1	0	0	0	2	1	0	0
Co-resident Income	7	9	7	8	24	23	23	19
Retirement Income	55	50	51	52	49	47	46	49
Social Security Benefits	31	30	31	31	34	33	33	33
DB Pension Benefits	20	11	8	7	12	8	7	7
Retirement Accounts	4	9	12	13	3	6	7	8

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 15. Mean Household Income of the Median 10% of Income Recipients, by Source, Gender and Martial Status

	Married Men				Married Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Income	\$44	\$54	\$63	\$64	\$44	\$52	\$61	\$63
Non-Retirement Income	18	23	28	26	17	21	25	24
Financial Income	6	6	7	7	7	8	7	7
Imputed Rental Income	3	5	5	4	3	5	6	4
Earnings	3	5	5	5	0	1	1	1
Spouse Earnings	3	3	6	5	3	5	6	8
SSI Benefits	0	0	0	0	0	0	0	0
Spouse SSI Benefits	0	0	0	0	0	0	0	0
Co-resident Income	2	4	4	5	3	3	5	5
Retirement Income	26	32	35	38	28	31	36	39
Social Security Benefits	11	14	16	17	6	8	10	11
Spouse Social Security Benefits	4	6	7	9	11	12	14	14
DB Pension Benefits	7	6	5	4	1	1	2	2
Spouse DB Pension Benefits	1	1	2	2	7	6	5	4
Retirement Accounts	1	3	3	4	1	2	2	3
Spouse Retirement Accounts	1	1	2	2	1	3	4	4

	Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Income	\$24	\$30	\$32	\$34	\$18	\$21	\$25	\$29
Non-Retirement Income	8	12	12	13	7	8	9	10
Financial Income	3	5	5	5	2	3	3	4
Imputed Rental Income	1	2	2	2	2	2	3	3
Earnings	3	4	3	3	1	2	2	2
SSI Benefits	0	0	0	0	1	0	0	0
Co-resident Income	2	1	2	2	3	1	1	1
Retirement Income	16	19	20	21	11	13	16	19
Social Security Benefits	11	13	14	14	9	11	13	15
DB Pension Benefits	4	3	3	3	1	2	2	2
Retirement Accounts	1	2	3	4	0	1	2	2

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 16. Share of Mean Household Income of the Median 10% of Income Recipients, by Source, Gender, and Marital Status

	Married Men				Married Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Income	100%	100%	100%	100%	100%	100%	100%	100%
Non-Retirement Income	42	42	44	41	38	41	41	38
Financial Income	14	12	12	11	15	15	11	11
Imputed Rental Income	8	8	8	6	8	9	10	7
Earnings	8	8	8	8	1	2	1	1
Spouse Earnings	7	6	9	8	7	9	10	12
SSI Benefits	0	0	0	0	0	0	0	0
Spouse SSI Benefits	0	0	0	0	0	0	0	0
Co-resident Income	5	7	7	7	6	6	8	7
Retirement Income	58	58	56	59	62	59	59	62
Social Security Benefits	26	26	25	26	14	15	16	18
Spouse Social Security Benefits	10	11	12	14	24	24	22	23
DB Pension Benefits	15	10	8	7	3	2	3	3
Spouse DB Pension Benefits	3	2	3	3	17	11	8	6
Retirement Accounts	3	6	5	6	2	3	4	4
Spouse Retirement Accounts	1	2	3	4	3	5	6	7

	Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total Income	100%	100%	100%	100%	100%	100%	100%	100%
Non-Retirement Income	35	39	37	38	41	37	36	34
Financial Income	12	16	15	16	9	12	12	12
Imputed Rental Income	5	6	7	5	9	11	10	9
Earnings	11	14	10	10	5	7	9	8
SSI Benefits	0	0	0	0	3	0	0	0
Co-resident Income	7	4	5	7	15	6	5	5
Retirement Income	65	61	63	62	59	63	64	66
Social Security Benefits	45	44	44	43	49	51	51	50
DB Pension Benefits	17	10	10	8	7	8	7	8
Retirement Accounts	3	7	9	12	2	4	6	8

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 17. Adjusted Poverty Rates at Age 67, by Gender and Marital Status

	Married Men				Married Women				Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total	3%	2%	1%	1%	3%	2%	2%	1%	11%	5%	5%	4%	20%	15%	9%	6%
Marital Status																
Married	3	2	1	1	3	2	2	1								
Widowed									6	3	2	1	13	6	4	2
Divorced									12	5	4	3	32	21	11	7
Never married									19	7	6	6	25	25	14	8
Race/Ethnicity																
White, non-hispanic	3	1	1	1	2	1	1	0	10	4	4	3	18	12	7	5
Black, non-hispanic	6	7	3	2	7	3	1	1	14	15	10	13	23	20	15	11
Hispanic	8	8	3	2	5	7	3	1	22	10	8	3	35	28	14	8
Other	9	3	1	1	9	6	1	0	10	4	8	0	14	15	13	1
Education																
High school dropout	8	9	5	4	6	7	6	2	21	13	19	9	29	29	22	15
High school graduate	2	1	1	1	2	1	2	1	7	5	3	4	17	14	9	6
College graduate	0	1	0	0	1	0	0	0	4	1	2	1	10	4	3	1
Labor Force Experience																
Less than 20 years	12	11	8	11	4	4	5	3	26	24	24	30	26	23	24	20
20 to 29 years	9	9	2	3	1	1	1	0	22	15	8	7	19	15	10	8
30 to 34 years	2	2	1	1	2	0	1	0	10	4	1	1	11	9	5	3
35 or more years	1	0	0	0	1	0	0	0	7	1	0	0	8	5	2	1
Lifetime Earnings (Own)^a																
1st Quintile	10	11	9	12	4	4	4	2	20	27	28	28	29	25	23	17
2nd Quintile	25	18	6	3	3	2	1	0	33	22	13	5	25	19	9	2
3rd Quintile	9	5	1	0	1	0	0	0	28	7	1	0	11	6	0	0
4th Quintile	1	0	0	0	0	0	0	0	6	0	0	0	2	0	0	0
5th Quintile	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Lifetime Earnings (Shared)^b																
1st Quintile	16	13	8	7	9	8	6	3	24	25	23	18	33	32	24	18
2nd Quintile	3	4	1	1	2	1	1	0	21	9	2	0	21	13	5	2
3rd Quintile	1	0	0	0	1	0	1	0	14	0	0	0	13	3	1	1
4th Quintile	1	0	0	0	1	0	0	0	7	0	0	0	10	0	0	0
5th Quintile	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).

Appendix Table 18. Percent with Per Capita Income at Age 67 Less than 45 Percent of the National Average Wage, by Gender and Marital Status

	Married Men				Married Women				Nonmarried Men				Nonmarried Women			
	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65	1926-35	1936-45	1946-55	1956-65
Total	31%	31%	29%	32%	28%	32%	30%	32%	29%	27%	29%	29%	43%	46%	41%	39%
Marital Status																
Married	31	31	29	32	28	32	30	32								
Widowed									21	20	24	25	37	35	32	33
Divorced									33	26	30	29	54	54	49	44
Never married									35	33	30	30	44	52	41	37
Race/Ethnicity																
White, non-hispanic	28	28	26	30	26	30	28	30	26	23	26	25	41	42	40	37
Black, non-hispanic	50	44	43	40	44	42	34	36	43	45	44	49	41	51	45	37
Hispanic	54	54	44	43	42	52	49	42	28	42	45	29	60	64	53	53
Other	31	27	27	29	39	32	23	32	43	22	24	33	43	50	35	30
Education																
High school dropout	55	63	55	58	47	57	54	56	49	48	57	49	54	64	63	62
High school graduate	27	33	35	37	26	33	35	37	22	27	32	32	41	47	46	44
College graduate	8	13	13	14	7	10	11	15	10	11	13	13	20	20	18	18
Labor Force Experience																
Less than 20 years	49	50	47	61	31	39	46	54	38	46	58	70	51	54	56	61
20 to 29 years	46	58	52	59	27	33	37	40	43	49	49	53	41	50	51	54
30 to 34 years	37	49	38	40	30	29	23	29	31	45	30	32	34	41	43	35
35 or more years	25	23	19	21	16	20	15	19	25	15	15	13	28	29	25	24
Lifetime Earnings (Own)^a																
1st Quintile	43	49	44	63	34	41	47	49	31	47	59	69	53	56	58	61
2nd Quintile	66	72	62	65	32	35	31	37	51	52	66	57	50	52	52	49
3rd Quintile	61	60	52	48	25	26	20	26	57	49	45	34	35	43	33	30
4th Quintile	36	37	33	30	5	14	9	11	27	25	16	14	17	14	14	11
5th Quintile	14	12	9	10	0	0	2	4	10	3	3	2	0	2	4	4
Lifetime Earnings (Shared)^b																
1st Quintile	61	62	59	72	50	54	60	64	47	51	62	66	57	64	63	65
2nd Quintile	51	56	52	51	40	48	47	49	50	47	48	44	51	52	52	50
3rd Quintile	30	37	33	35	27	30	28	31	33	33	29	21	34	40	31	32
4th Quintile	20	21	16	16	17	18	12	17	24	22	12	12	30	20	20	16
5th Quintile	11	8	5	4	6	5	2	2	11	5	4	2	12	5	3	3

Notes:

^aOwn lifetime earnings is the average of an individual's wage-indexed earnings between ages 22 and 62

^bShared lifetime earnings is the average of wage-indexed per capita shared earnings between ages 22 and 62, where shared earnings are computed by assigning each individual half the total earnings of the couple in the years when the individual is married and his or her own earnings in years when nonmarried.

Source: The Urban Institute tabulations of DYNASIM3 (see text for details).