

**PROJECTING POVERTY RATES IN 2020 FOR THE 62 AND OLDER
POPULATION: WHAT CHANGES CAN WE EXPECT AND WHY?**

Barbara A. Butrica, The Urban Institute
Karen Smith, The Urban Institute
Eric Toder, Internal Revenue Service*

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Center for Retirement Research at Boston College
550 Fulton Hall
140 Commonwealth Ave.
Chestnut Hill, MA 02467
Tel: 617-552-1762 Fax: 617-552-1750
<http://www.bc.edu/crr>

*Barbara A. Butrica is a Research Associate at The Urban Institute. Karen Smith is a Senior Research Associate at The Urban Institute. Eric Toder is with the Internal Revenue Service. The research reported herein was performed pursuant to a grant from the U.S. Social Security Administration (SSA) funded as part of the Retirement Research Consortium. The opinions and conclusions are solely those of the authors and should not be construed as representing the opinions or policies of SSA, the Internal Revenue Service, or any agency of the Federal Government or of the Center for Retirement Research at Boston College. They also do not necessarily reflect the views of The Urban Institute, its Board, or its Sponsors.

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140 Commonwealth Ave.
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phone: 617-552-1762 fax: 617-552-1750
e-mail: crr@bc.edu
<http://www.bc.edu/crr>

Affiliated Institutions:

Massachusetts Institute of Technology
Syracuse University
The Brookings Institution
National Academy of Social Insurance
Urban Institute

ABSTRACT

Over the past several decades, there have been a number of economic and demographic changes that are expected to impact the economic well-being of the future aged population. This paper analyzes the factors that may be related to increased or decreased poverty among the 62- to 89-year-old population in 2020 using the Social Security Administration's Model of Income in the Near Term (MINT). We estimate that the poverty rate, when thresholds are indexed to the CPI, will decline from 7.8 percent in the early 1990s to 4.2 percent in 2020, but the rate would increase from 7.8 percent to 9.9 percent if the threshold were indexed to wages. We examine the impact of four specific trends on future poverty rates: 1) the scheduled rise in the Social Security normal retirement age, 2) the changes in marital composition, 3) the change in the relative earnings of men and women, and 4) the rise in earnings inequality.

We find that the increase in the normal retirement age and changes in marital composition each explain about 25 percent of the projected increase in wage-adjusted poverty. The changes in the relative earnings of men and women did not affect the poverty rate—it only affected who was in poverty. The rise in earnings inequality had almost no effect on poverty rates largely because of the progressive Social Security payment formula. The projections of poverty rates are very sensitive to economic growth assumptions. Even with the substantial wage growth projected by the Social Security Office of the Chief Actuary, however, high school dropouts, unmarried retirees, and older retirees remain at high risk of poverty.

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I. INTRODUCTION

The past 30 to 40 years have been accompanied by considerable changes in marriage patterns, earnings and work patterns, the economy, and retirement policy. While these changes will undoubtedly impact future retirees, it is difficult to know exactly how they will influence their economic well-being. The aim of this paper is to analyze the factors that may be related to increased or decreased poverty among the 62- to 89-year-old population in 2020.

This paper projects future changes in poverty among the 62 and over population and deconstructs the sources of those changes. Our analysis provides insights on how overall poverty rates among retirees are likely to change between the early 1990s and 2020, which groups of retirees are most likely to be at risk of poverty, and what factors contribute most to changes in poverty rates.

Our analysis is based on projections of the major sources of retirement income from the Social Security Administration's Model of Income in the Near Term (MINT). MINT starts with data from the 1990 to 1993 U.S. Census Bureau's Survey of Income and Program Participation (SIPP) matched to Social Security Administration's (SSA) earnings and benefit records through 1999. MINT then projects retirement income (Social Security benefits, pension income, asset income, earnings—both before and after benefit take-up, Supplemental Security Income (SSI), and income from nonspouse co-resident family members) from the base SIPP year through 2032 for individuals born between 1926 and 1965.¹

In Section II, we provide some background information on some of the salient historic trends likely to influence the demographic characteristics and well-being of the future retired population. In Section III, we describe how MINT projects demographic changes and incomes and explain how we measure poverty. In Section VI, we present data on the economic status of the aged population in the early 1990s. We report per capita income by source, family income divided by poverty, poverty rates, and the marginal contribution each income source has on family income relative to poverty. In Section V, we report MINT projections of income and poverty in 2020 and contrast them with those of the early 1990s. In Section VI, we explore the sensitivity of our income and poverty results to alternate measures of asset income.

In Section VII, we examine the effects of various economic, demographic, and policy changes on poverty rates in 2020. We estimate the effects on future poverty rates of

- the decline in Social Security benefits relative to the average wage, resulting from the scheduled increase in the normal retirement age (NRA),
- the increase in the proportion of retirees who are unmarried,
- changes in average relative earnings of males and females in post-1950 birth cohorts compared with earlier cohorts, and

¹ MINT was designed to analyze the distribution of retirement incomes of individuals born between 1931 and 1960. In order to get spousal incomes for the key cohorts, MINT includes individuals born five years before and after the key cohorts. While it includes those born between 1926 and 1930, these individuals are included as spouses of the primary MINT cohorts. Spousal incomes are less certain for out-of-bound individuals.

- increases in earnings inequality for post-1950 birth cohorts, compared with earlier cohorts.

Finally, Section VIII presents a summary and conclusions. An Appendix to this paper compares these latest MINT results with earlier findings using a previous version of MINT and describes the source of the differences.

We find that price-adjusted poverty is projected to decline from 7.8 percent in the early 1990s to 4.2 percent in 2020, but that wage-adjusted poverty is projected to increase from 7.8 percent to 9.9 percent. Despite increased earnings of women and higher projected real wages, however, some subgroups of the population will continue to experience persistently high poverty rates in 2020.

We estimate that rising real wages are the major source of lower projected price-adjusted poverty rates. Among the other sources of change between the early 1990s and 2020, poverty rates are influenced much more by changes in the NRA and marriage patterns than by changes in earnings patterns. We find that the increase in the normal retirement age and changes in marital composition each explain about 25 percent of the projected increase in wage-adjusted poverty. The changes in the relative earnings of men and women did not affect the poverty rate—it only affected who was in poverty. The rise in earnings inequality had almost no effect on poverty rates largely because of the progressive Social Security payment formula. The projections of poverty rates are very sensitive to economic growth assumptions. Independent of these assumptions, high school dropouts, unmarried, and older retirees remain at high risk of both price-adjusted and wage-adjusted poverty in the future.

II. BACKGROUND

1. Trends in Marriage and Divorce

In recent years, it has become increasingly common for people to wait until older ages to marry for the first time. Furthermore, many of those who marry will eventually divorce (Goldstein 1999; DaVanzo and Rahman 1993; Ahlburg and De Vita 1992; Norton and Miller 1992). Although most people who divorce will remarry, the remarriage rate has decreased, and second marriages also often end in divorce (Norton and Miller 1992).

The overall trends mask large differences within gender and racial groups. Marriage rates among those not previously married are only slightly higher for women than for men, but women are much less likely than men to remarry after divorce or widowhood (U.S. Bureau of the Census 1996, No. 149). Additionally, while it has long been established that Blacks are less likely than Whites to marry and remain married (Cherlin 1992; Ruggles 1997), the gap between the groups is growing. Between 1970 and 2000, the proportion of the population 18 and over who are married declined by 17.1 percent for Whites (from 72.6 to 60.2 percent) and by 42.7 percent for Blacks (from 64.1 to 36.7 percent) (Saluter 1994, Table A-1; Fields and Casper 2001, Table A1).

These trends in marriage, 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. If the trends continue, there will also be many more unmarried females and unmarried Blacks in the future retiree population. Unmarried persons, ages 55 or older, have poverty rates that are 3-

4 times higher than those of married couples (Grad 2000, Table VIII.1). Additionally, Blacks and females are more likely to be poor than Whites and males. For these reasons, the recent trends in marriage and divorce could increase poverty rates among future retirees.

2. Trends in Earnings and Labor Force Participation

Between 1970 and 2000, labor force participation rates increased by 39.0 percent for women and decreased by 6.3 percent for men (see Table 1). Although Black women were more likely than White women to work during this period, White women experienced a larger increase in their labor force participation rate (40.4 percent) than Black women (27.7 percent). Black men, whose labor force participation rates started out lower than those of White men, experienced a larger decrease in their labor force participation rate (9.8 percent) during this period than White men (5.7 percent). By 2000, the labor force participation rate of Black females was only 5.8 percentage points lower than that of Black males. In comparison, the female-male gap in labor force participation rates for Whites was over 15 percentage points.

Table 1. Labor Force Participation Rates, by Race and Marital Status¹					
	1970	1980	1990	2000	% Change 1970-2000
Total					
Males	79.7	77.4	76.4	74.7	-6.3%
Females	43.3	51.5	57.5	60.2	39.0%
White					
Males	80.0	78.2	77.1	75.4	-5.7%
Females	42.6	51.2	57.4	59.8	40.4%
Black					
Males	76.5	70.3	71.0	69.0	-9.8%
Females	49.5	53.1	58.3	63.2	27.7%
Females					
Total	43.3	51.5	57.5	60.2	39.0%
Single	56.8	64.4	66.7	69.0	21.5%
Married²	40.5	49.9	58.4	61.3	51.4%
Other³	40.3	43.6	47.2	49.4	22.6%

Notes:
¹For civilian noninstitutional population 16 years old and over. Data are not strictly comparable across years.
²Husband present.
³Widowed, divorced, or separated.

Sources:
 U.S. Bureau of the Census 2000, No. 644.
 U.S. Bureau of the Census 2001, No. 568 and No. 576.

As Table 1 shows, married women experienced the largest gain in labor force participation rates during this time period. Between 1970 and 2000, the labor force participation rate of married women increased by over 50 percent, while those of never-married, widowed, divorced, and separated women increased by only about 22 percent. The composition of the labor force looked very different in 2000 than it did in 1970, as married women were much more

likely to work than widowed, divorced, or separated women and nearly as likely to work as never-married women. Levy (1998) attributes the increased employment of married women to the economic pressures on working husbands from stagnant wages and high inflation.

Finally, the female-male ratio of median weekly earnings of full-time wage and salary workers rose from 62.3 percent in 1970 to 76.0 percent in 2000 (see Table 2). The median Black wage and salary worker earned only 79.2 percent of what the median White wage and salary worker earned in 2000. However, the female-male ratio of median weekly earnings in 2000 was higher for wage and salary workers who were Black (85.3 percent) than it was for those who were White (74.7 percent).

Table 2. Ratio of Median Weekly Earnings, by Sex and Race					
	1970	1980	1990	2000	% Change 1970-2000
Female/Male					
Total	62.3%	63.4%	71.9%	76.0%	22.1%
White	60.5%	62.6%	71.5%	74.7%	23.5%
Black	71.7%	76.5%	85.3%	85.3%	19.0%
Black/White	73.9%	79.9%	77.6%	79.2%	7.2%
<small>Note: For civilian noninstitutional population 16 years old and over. Data are not strictly comparable across years.</small>					
<small>Sources: U.S. Bureau of the Census 1983, No. 671. U.S. Bureau of the Census 2001, No. 621.</small>					

Recent trends in work and earnings patterns will affect both private pensions and Social Security benefits of future retirees. The biggest effect will be on female retirees. Because recent cohorts of women have higher labor force participation rates than earlier cohorts, they are more likely to receive pension income and Social Security retirement benefits based on their own earnings than women in earlier cohorts. However, because most women still earn less than men and most Blacks still earn less than Whites, many Black and female retirees will continue to be economically vulnerable.

3. Trends in Economic Growth

Average earnings (adjusted for inflation) grew at an average annual rate of about 2-3 percent per year between 1947 and 1973. Between the mid-1970s and early 1990s, however, there was almost no real growth in earnings (Levy and Murnane 1992; Levy 1998). During this period, women’s earnings grew faster than men’s earnings, but even their earnings grew more slowly than they had in previous years. Since the early 1990s, earnings have begun to grow more quickly—with the largest increases in late 1990s. Between 1995 and 2000, real earnings growth averaged 2.85 percent annually (U.S. Board of Trustees (OASDI) 2002, Table V.B1). But the Office of the Chief Actuary (OCACT) is not expecting this high growth rate to be sustained in the future. Under the intermediate cost scenario, the 2002 OASDI Trustees Report

assumes that average wages will increase annually by 4.1 percent and that prices will increase annually by 3.0 percent, which amounts to an annual real wage growth rate of 1.1 percent.

Between the mid-1970s and early 1990s, there was also accelerated growth in earnings inequality. Although the distribution of earnings was already more unequal among women than men, even women's earnings inequality increased during this time period—though at a much slower rate than men's (Levy and Murnane 1992; Levy 1998). Much of the change in inequality reflected declines in income at the bottom of the distribution (Levy and Murnane 1992; Gottschalk and Smeeding 1997).

Because the Social Security benefit base is indexed to wages, continued wage growth would result in increased benefits for future retirees. However, lower relative earnings in the bottom of the income distribution will raise the poverty level of future retirees compared with the poverty level if the earnings distribution had remained stable.

4. Trends in Poverty

Given the patterns in wage growth described above, it is not surprising that overall poverty rates have declined dramatically during the past four decades. The largest decline in poverty over this period has been for those age 65 and over. In 1959, the elderly had the highest poverty rate of any age group—35.2 percent for those age 65 and older compared with 17.0 percent for 18- to 64-year-olds and 27.3 percent for children under 18 years of age. The poverty rate of the 65 and over age group declined steadily to 24.6 percent in 1970, 15.7 percent in 1980, and 12.2 percent in 1990 (Federal Interagency Forum on Aging-Related Statistics 2000). The poverty rate of those age 65 and over achieved a record low of 9.7 percent in 1999 (U.S. Bureau of the Census 2001, No. 683), but increased slightly in 2000 to 10.2 percent (Dalaker 2001).²

III. METHODOLOGY

1. Description of Model of Income in the Near Term (MINT)

MINT projects the wealth and income of individuals born between 1926 and 1965 from the early 1990s until 2032. It was developed by SSA's Office of Research, Evaluation, and Statistics, with substantial assistance from the Brookings Institution, the RAND Corporation, and the Urban Institute. (For more information see Butrica, Iams, Moore and Waid 2001; Panis and Lillard 1999; and Toder *et al.* 1999). The projections in this paper are based on the most recent version of MINT, MINT3 (Toder *et al.* 2002).

For persons born between 1926 and 1965, MINT independently projects each person's marital changes, mortality, entry to and exit from Social Security disability insurance (DI) rolls, and age of first receipt of Social Security retirement benefits. It also projects lifetime earnings, Social Security benefits, and other sources of income after age 49 from the early 1990s through the year 2032. These other sources of income include income from private pension plans, nonpension assets, SSI, and income of nonspouse co-residents. It also calculates a rate of return

² These poverty rates are based on the March Current Population Survey (CPS). The poverty rates in this paper are based on the Survey of Income and Program Participation (SIPP). SIPP poverty rates have historically been lower than CPS poverty rates. Much of the difference is due to SIPP capturing more occasional incomes and controlling for changes in family composition over the calendar year.

on owner-occupied housing to reflect that homeowners are better off than nonhomeowners. The base data for these projections are the 1990-93 panels of the SIPP, matched to SSA administrative records on earnings, benefits, and mortality.

MINT projects future marital histories and estimates characteristics of future and former spouses. It estimates marital transitions from the reported marital status in the SIPP panels, using gender-specific continuous time hazard models for marriage and divorce. Explanatory variables that predict marital transitions in the equations are age, education, years unmarried, whether widowed, and calendar year after 1980. The last variable captures the stabilization of divorce rates at a relatively high level in the early 1980's (Goldstein 1999).

MINT also identifies characteristics of spouses, in particular their earnings histories, for all married individuals. Individuals who were married in the 1990-93 SIPP panels and remain married throughout the projection period are exactly matched with their spouses from the survey. Former and future spouses are statistically assigned from a MINT observation with similar characteristics, or a "nearest neighbor." Thus, MINT contains observed and estimated marital histories with the linkages to the characteristics of current, former, and future spouses that are necessary for calculation of spousal and survivors benefits.

MINT imputes earnings histories and disability onset through age 67 using a "nearest neighbor" matching procedure. MINT starts with a person's own SSA recorded earnings from 1951 through 1999. The nearest neighbor procedure statistically assigns to each "recipient" worker the next five years of earnings and Social Security DI entitlement status, based on the earnings and DI status of a "donor" MINT observation born five years earlier with similar characteristics. The splicing of five-year blocks of earnings from donors to recipients continues until earnings projections reach age 67. A number of criteria are used to match recipients with donors in the same age interval. These criteria include gender, minority group status, education level, DI entitlement status, average earnings over the five-year period, presence of earnings in the 4th and 5th years of the five-year period, and age-gender group quintile of average prematch period earnings. An advantage of this approach is that it preserves the observed heterogeneity in age-earnings profiles for earlier birth cohorts in projecting earnings of later cohorts.

In a subsequent process, for all individuals who never become DI recipients, MINT projects earnings, retirement, and benefit take-up from age 50 until death. These earnings replace the earnings generated from the splicing method after age 50. This post-process allows the model to project behavioral changes in earnings, retirement, and benefit take-up in response to policy changes. MINT then calculates Social Security benefits based on earnings histories and past DI entitlement status of workers, marital histories, and earnings histories of current and former spouses.

Separate modules in MINT impute defined benefit (DB) pension coverage and benefits, defined contribution (DC) pension coverage and wealth at retirement, and nonpension wealth from age 50 until death. The pension projections start with the self-reported pension coverage information in the SIPP. MINT then links individuals to pension plans and simulates new pension plans along with job changes. Pension accruals depend on the characteristics of individuals' specific pension plan parameters. MINT also projects home equity and nonpension wealth. These projections are based on random-effects models estimated from the Panel Survey of Income Dynamics (PSID), Health and Retirement Study (HRS), and the SIPP. Explanatory variables include age, recent earnings and present value of earnings, number of years with earnings above the Social Security taxable maximum, marital status, gender, number and age of

children, education, race, health and disability status, pension coverage, self-employment, and age at death.

Finally, MINT projects family living arrangements, SSI income, and income of nonspouse co-residents from age 62 until death. Living arrangements depend on the marital status, age, gender, race, ethnicity, nativity, number of children ever born, education, income and assets of the individual, and date of death. For those projected to co-reside, MINT uses a “nearest neighbor” match to assign the income and family characteristics of the other family members from a donor file of co-resident families from the 1990 to 1993 SIPP panels. After all incomes and assets are calculated, MINT calculates SSI eligibility and projects participation and benefits for eligible participants.

MINT uses OCACT projections, based on economic assumptions external to MINT, of disability prevalence and mortality through age 65 and of the growth of average economy-wide wages and the consumer price index (CPI).³ All projections of income and wealth in MINT are expressed as ratios to the average economy-wide wage. Poverty rates, however, depend on the level of income in relation to the CPI. Changes in external projections of real wages, therefore, will change the projected poverty rates that are consistent with any given forecast of future relative earnings produced by MINT.

MINT is a useful tool for gaining insights of what we expect to happen to poverty rates of future retirees. It projects Social Security benefits and other important sources of income in retirement. MINT also accounts for major changes in the growth of economy-wide real earnings, the distribution of earnings both between and within birth cohorts, the increase in the NRA for later cohorts, and the composition of the 62 and over population by age, gender, and marital status. All these factors will affect benefits in 2020.

2. Measuring Poverty Among the 62 and Over Population

We measure poverty rates using the official poverty thresholds of the U.S. Bureau of the Census. These thresholds vary with family size; the poverty threshold for a married couple age 65 and over is 1.26 times the poverty rate of a single individual. To avoid an arbitrary change in poverty status when someone’s age increases from 64 to 65, we use the age 65 and over poverty thresholds to calculate the ratio of income to poverty levels for all individuals age 62 and over.⁴

We modify the definition of income used by the Census Bureau for measuring poverty in several ways. First, we impute income from assets by multiplying projected wealth by a real return of 3 percent. This discount rate is meant to represent an estimate of the long-run yield on high-quality bonds. The Census Bureau, in contrast, measures people’s income from assets directly, but their income measure is conceptually different from the one we use. Census measures nominal income, which includes both the real return on assets and the portion of

³ MINT3 uses OCACT projections based on the intermediate cost scenario in the 2002 OASDI Trustees Report.

⁴ In 2000, the poverty threshold was \$10,419 for a couple age 65 and older and \$8,259 for a single individual age 65 and older (Dalaker 2001). A couple with combined income of \$12,000 would have income that is 115 percent of poverty (above the poverty threshold). A single individual with half of the couple’s income (\$6,000) would have income that is 73 percent of poverty (below the poverty threshold). On a per capita basis, the well-being of these single and married individuals is the same. On a poverty equivalent basis, the single individual is considerably worse off.

income that merely compensates asset owners for the decline in the value of their principal due to inflation. We would have higher investment incomes, and therefore lower poverty, if we were to impute a *nominal* return to projected wealth.⁵ We use a measure of real income instead of nominal income because we do not want to show people's economic status improving or declining over time due to changes in nominal incomes attributable to changes in forecasts of the inflation rate. Changes that alter only nominal incomes do not affect living standards.

A second difference between our income measure and that used by the Census Bureau is that we include the return of capital as a part of the income from financial assets, while the Census includes only the interest and dividends from assets. Census does, however, include the full amount of annual payments from private defined benefit pension plans and Social Security in their definition of income, even though some of the payments from these and other annuities represent a return of contributions instead of income from wealth. To ensure consistency between the treatment of annuities and other assets, we also count the potential annual annuity payments from other assets as income.

An issue, of course, is how to measure the potential annuity payments from other assets. If each person knew how long he or she would live or could purchase an actuarially fair annuity, we could calculate the annual consumption that his or her wealth could finance after age 62. In reality, individuals must set aside part of their wealth to self-insure against the risk of outliving their assets if they are unwilling to purchase an annuity at the rates available to them in private markets. To measure income from assets, we calculate an actuarially fair annuity, using life expectancy projections in MINT (Panis and Lillard 1999) that are based on age, gender, race, educational attainment, and disability status.⁶ We include only 80 percent of this annuity value in income from assets. The reduction factor we apply in measuring income is meant to approximate an adjustment for the risk of living beyond one's life expectancy.

We include return of capital from financial assets that people hold in the form of defined contribution wealth and assets outside of pension plans in our measure of retirement income to minimize the effect on measured poverty rates of the projected shift from DB to DC retirement plans. Without this adjustment, individuals would appear poorer from the shift in wealth from DB plans (where the Census income measure includes return of capital) to DC plans (where the Census measure excludes return from capital.)

Years of persistent real wage growth will inevitably increase incomes relative to the price-adjusted poverty threshold and lower poverty rates. The poverty thresholds increase annually with increases in prices as measured by the CPI. If wages increase faster than the CPI, virtually all individuals with Social Security entitlement will eventually have incomes above poverty because the Social Security initial benefit grows with wages. To test the sensitivity of the poverty projections, we also consider what poverty rates would be if the thresholds were wage-adjusted rather than price-adjusted. Wage-adjusting the poverty thresholds will make the projected poverty rates in 2020 higher than the rates estimated with price-adjusted thresholds.

⁵ We would also impute a higher investment yield if we used a rate of return that reflected the average return on a more representative portfolio of stocks and bonds. But, working in the other direction, Census understates the nominal yield on assets because their measure of income excludes certain sources of income, most notably capital gains, and also undercounts income from dividends and interest relative to incomes reported to the IRS.

⁶ MINT3 adjusts the Panis and Lillard (1999) mortality projections to include disability status based on mortality differentials estimated from Zayatz (1999). See Toder et al. (2002) for more details.

IV. RETIREMENT INCOME IN THE EARLY 1990S

In this section, we describe average per capita family income by income source, average family-size-adjusted income using family income divided by the poverty threshold, and poverty rates of 62- to 89-year-olds in the early 1990s by subgroup. We also show the relative importance of different sources of income for determining poverty rates. These results are based on tabulations of aged families from the 1990 to 1993 SIPP panels.

1. Per Capita Income by Source

For the 62- to 89-year-olds in the early 1990s, average per capita income was 87 percent of the average economy-wide wage (see Table 3). On average, Social Security benefits were 24 percent of the average wage, income from financial assets (defined contribution pension plans, IRAs, and other savings) 11 percent, income from earnings 14 percent, income from private defined benefit pension plans 12 percent, and imputed income from owner-occupied homes 5 percent.⁷ In addition, other nonspouse family members (co-residents) contributed about 15 percent of the average wage to family income. SSI was only 1 percent of the average wage and other incomes not projected in MINT (veterans benefits, railroad retirement, life insurance annuities, other cash, lump sum payments, alimony, unemployment compensation, and miscellaneous other sources) added about 4 percent of the average wage to family income.⁸

Per capita total income of 62- to 89-year-olds varied by educational attainment, race, gender, marital status, and age. Income of college graduates age 62 and over was about 133 percent of the average wage, while income of high school dropouts was about 68 percent. Income of White non-Hispanics was 89 percent of the average wage, compared with 68 percent for Blacks and 72 percent for Hispanics. Income of males was slightly higher as a percentage of the average wage (89 percent) than income of females (86 percent). Among gender-marital status groups, per capita income was highest among widowed and divorced males (near or over 100 percent of the average wage) and lowest among married women (about 80 percent of the average wage). Without co-resident income, unmarried women would have the lowest per capita income.

Per capita income was higher for the younger (below age 70) than for the older elderly, with the difference attributable primarily to higher earnings of those under age 70 (many of whom have not retired, have a nonretired spouse, or continue to work while receiving Social Security benefits). As individuals age, average Social Security benefits increase and average earnings decrease as older individuals replace earnings with benefits.

Social Security benefits were the largest source of income for the overall population, but the relative importance of different income sources varied among subgroups. (For these calculations, people are grouped by per capita income of the individual or couple. Income of co-residents is included in total income, but is not included in the income measure used to classify people into income quintiles.) Income from assets was the largest income source for those in the highest per capita income quintile and was a relatively more important income source for college graduates and Whites than for those with less education and non-Whites. Pension income was

⁷ Imputed rental income is based on a 3 percent real rate of return on the family's home equity.

⁸ Veterans benefits, railroad retirement, life insurance annuities, other retirement pensions are the major sources of non-MINT income. They amount to about 70 percent of non-MINT income.

also concentrated among those in the top income quintile, but pension income was more evenly distributed among different racial groups than asset income was.

Table 3. Average per Capita Income as a Percent of the Average Wage in the Early 1990s by Income Source										
	Percent of Retirees	Total	Social Security	Financial Asset Income¹	Earnings	DB Pension Income	Imputed Rental Income	SSI	Co-resident Income	Other Income
Total	100.0%	0.87	0.24	0.11	0.14	0.12	0.05	0.01	0.15	0.04
Educational Attainment										
High School Dropout	40.7%	0.68	0.23	0.05	0.07	0.06	0.04	0.01	0.18	0.03
High School Graduate	46.6%	0.91	0.25	0.13	0.15	0.14	0.06	0.00	0.14	0.04
College Graduate	12.7%	1.33	0.24	0.25	0.34	0.26	0.08	0.00	0.10	0.06
Race										
White non-Hispanic	85.4%	0.89	0.26	0.13	0.15	0.13	0.06	0.00	0.13	0.04
Black	7.7%	0.68	0.19	0.01	0.11	0.09	0.03	0.02	0.20	0.02
Hispanic	4.7%	0.72	0.18	0.03	0.10	0.07	0.04	0.03	0.26	0.02
Asian/Native American	2.2%	1.09	0.15	0.06	0.17	0.08	0.04	0.05	0.50	0.04
Gender										
Female	58.6%	0.86	0.25	0.11	0.12	0.10	0.05	0.01	0.19	0.04
Male	41.4%	0.89	0.24	0.12	0.18	0.15	0.05	0.00	0.10	0.04
Marital Status by Gender										
Never-Married Male	2.0%	0.92	0.22	0.13	0.11	0.14	0.04	0.02	0.21	0.05
Married Male	32.1%	0.84	0.22	0.12	0.20	0.14	0.05	0.00	0.07	0.04
Widowed Male	4.5%	1.14	0.32	0.16	0.11	0.18	0.06	0.01	0.26	0.05
Divorced Male	2.7%	0.98	0.25	0.08	0.24	0.15	0.04	0.01	0.15	0.06
Never-Married Female	2.6%	0.94	0.23	0.11	0.09	0.16	0.04	0.03	0.27	0.03
Married Female	27.9%	0.80	0.24	0.12	0.17	0.13	0.05	0.00	0.05	0.04
Widowed Female	23.8%	0.92	0.28	0.10	0.05	0.07	0.06	0.01	0.32	0.04
Divorced Female	4.4%	0.85	0.20	0.06	0.15	0.07	0.04	0.02	0.26	0.03
Age										
62 to 64	15.5%	1.01	0.14	0.09	0.39	0.13	0.06	0.01	0.16	0.05
65 to 69	27.8%	0.89	0.23	0.10	0.19	0.14	0.06	0.01	0.14	0.04
70 to 74	23.2%	0.83	0.27	0.11	0.08	0.14	0.05	0.01	0.13	0.04
75 to 79	16.7%	0.83	0.29	0.13	0.05	0.11	0.05	0.01	0.15	0.03
80 to 84	12.4%	0.80	0.28	0.12	0.03	0.08	0.05	0.01	0.20	0.04
85 to 89	4.5%	0.81	0.28	0.13	0.01	0.07	0.05	0.01	0.24	0.03
Per Capita Income Quintile										
1	20.0%	0.54	0.17	0.02	0.01	0.01	0.02	0.03	0.26	0.01
2	20.0%	0.61	0.25	0.05	0.04	0.05	0.04	0.00	0.16	0.02
3	20.0%	0.74	0.27	0.08	0.07	0.10	0.05	0.00	0.14	0.03
4	20.0%	0.95	0.27	0.13	0.15	0.17	0.07	0.00	0.13	0.04
5	20.0%	1.51	0.26	0.28	0.44	0.27	0.10	0.00	0.08	0.09

Notes:

1) Uses a real discount rate of 3.0% to convert wealth to asset income.

2) Annuitizes 80% of wealth.

3) Imputed rental income is excluded from total family income.

Source: Authors' calculations based on 1990-1993 SIPP.

Co-resident income was an important source of income for aged individuals in 1990-93. Co-resident income was higher among older individuals than younger individuals, higher for unmarried individuals than married individuals, and higher for females than males. It was also higher for individuals with the lowest per capita income than for higher-income individuals. Co-resident income, however, was also a relatively large source of income for individuals in the top per capita income quintile.⁹

Non-MINT sources of income are evenly distributed across all subgroups. The non-MINT income monotonically increases by per capita income quintile of the aged unit. This implies that higher income individuals also have more non-MINT income. In many cases, non-MINT income is a very important contributor to family well-being.

2. Family Income Divided by Poverty

We divide family income by the family poverty threshold to adjust income for differences in family size. As with Census, we do not include imputed rent in the income measure we use to determine poverty rates. The poverty threshold accounts for both the size and composition of the family in determining family need. This measure is a commonly used equivalence measure. Average family income of the 62 and over population in the early 1990s was about 3.5 times the poverty level (see Table 4).¹⁰ Income in relation to the poverty level was higher for relatively younger individuals than for older individuals. Individuals between ages 62 and 64 in the early 1990s had about 46 percent higher poverty-adjusted income than those between ages 85 and 89 for three reasons. First, younger individuals in the 62 and over population have higher earnings than older individuals. Second, the combination of wage growth and the indexing of starting benefits to the average wage makes Social Security benefits higher for more recent than for earlier cohorts of beneficiaries. Third, the younger elderly are more likely to be married than older individuals, who are mostly widowed. Because the poverty threshold for couples is less than twice the threshold for singles, a married couple with the same per capita income as a single individual will have a higher income in relation to the poverty level than will the single person.

As expected, average income relative to poverty was higher for more-educated than for less-educated individuals, higher for White non-Hispanics than for Blacks and Hispanics, and higher for males than for females. While poverty-adjusted income was over four times higher for individuals in the top per capita income quintile compared to those in the bottom per capita quintile, the dispersion widens as age decreases (mostly due to the increase in earnings at younger ages).

⁹ Note that the co-resident income amount shown here is the total family co-resident income divided by the number of people in the aged unit. It is not really a “per capita” measure because the co-resident income supports more individuals than just the aged unit.

¹⁰ Recall that the ratio of family income to the poverty level depends on both the level of income of individuals and their marital status. If two individuals age 65 and over who each have income at the poverty level marry, their per capita income remains constant, but their combined income rises to 1.59 times the poverty level. This change in the ratio of income to the poverty level reflects the fact that the poverty threshold for a married couple is 1.26 times as high as the poverty threshold for a single individual.

Table 4. Average Family Income as a Percent of Poverty in the Early 1990s, by Age

	All	Age					
		62-64	65-69	70-74	75-79	80-84	85-89
Total	3.46	4.28	3.60	3.33	3.22	2.89	2.93
Educational Attainment							
High School Dropout	2.45	2.85	2.48	2.36	2.39	2.32	2.38
High School Graduate	3.72	4.39	3.81	3.55	3.57	3.09	3.15
College Graduate	5.77	6.89	5.78	5.48	5.12	5.37	5.04
Race							
White non-Hispanic	3.64	4.54	3.82	3.48	3.39	3.05	3.07
Black	2.18	2.81	2.27	2.16	1.86	1.73	1.87
Hispanic	2.33	2.74	2.51	2.08	1.98	2.09	2.00
Asian/Native American	3.31	4.05	3.04	3.96	2.68	2.43	2.19
Gender							
Female	3.19	3.97	3.40	3.04	2.97	2.62	2.76
Male	3.85	4.68	3.87	3.72	3.58	3.38	3.31
Marital Status by Gender							
Never-Married Male	2.68	3.04	2.60	2.82	2.62	2.31	2.29
Married Male	4.07	4.92	4.09	3.86	3.84	3.56	3.57
Widowed Male	3.31	4.73	3.40	3.41	2.96	3.17	3.08
Divorced Male	3.02	3.58	2.97	3.00	2.37	2.49	1.92
Never-Married Female	2.63	2.66	2.74	2.43	2.78	2.53	2.71
Married Female	4.01	4.67	4.00	3.71	3.86	3.57	3.53
Widowed Female	2.46	2.88	2.49	2.36	2.42	2.34	2.64
Divorced Female	2.27	2.52	2.20	2.20	2.18	2.20	2.29
Per Capita Income Quintile							
1	1.53	1.65	1.50	1.52	1.49	1.44	1.67
2	2.17	2.65	2.28	2.09	1.98	1.85	1.85
3	2.88	3.67	3.09	2.77	2.64	2.27	2.05
4	3.85	5.01	4.10	3.67	3.43	3.03	3.01
5	6.89	8.45	7.05	6.59	6.56	5.88	6.11

Notes:

- 1) Uses a real discount rate of 3.0% to convert wealth to asset income.
- 2) Annuityizes 80% of wealth.
- 3) Imputed rental income is excluded from total family income.

Source: Authors' calculations based on 1990-1993 SIPP.

3. Poverty Rates

Using the income measure described above in Section II, we find that 7.8 percent of 62- to 89-year-olds had incomes below the poverty level in 1990 (see Table 5). Poverty rates among older individuals varied by educational attainment, race, gender, and marital status. Poverty rates were much higher among high school dropouts (13.7 percent) than among high school graduates (4.0 percent) and college graduates (2.5 percent). They were also higher among Blacks and Hispanics (23.8 percent and 18.8 percent, respectively) than among White non-Hispanics (5.6 percent).

**Table 5. Percent of Individuals in Poverty in the Early 1990s,
by Age**

	All	Age					
		62-64	65-69	70-74	75-79	80-84	85-89
Total	7.8%	6.2%	6.4%	7.1%	8.7%	11.6%	11.2%
Educational Attainment							
High School Dropout	13.7%	12.3%	12.2%	13.4%	15.1%	15.0%	15.8%
High School Graduate	4.0%	3.7%	3.3%	3.4%	3.7%	8.4%	6.4%
College Graduate	2.5%	1.4%	2.8%	1.9%	2.9%	3.6%	3.5%
Race							
White non-Hispanic	5.6%	4.4%	4.2%	4.8%	6.2%	9.6%	9.1%
Black	23.8%	16.3%	20.6%	22.8%	30.8%	29.9%	32.6%
Hispanic	18.8%	18.6%	16.6%	22.5%	21.0%	16.0%	18.1%
Asian/Native American	11.8%	5.3%	13.3%	12.3%	16.4%	13.6%	14.5%
Race by Education							
Non-Black							
High School Dropout	11.2%	10.1%	9.6%	10.9%	12.1%	12.6%	13.3%
High School Graduate	3.4%	3.4%	2.7%	2.8%	3.0%	7.6%	5.8%
College Graduate	2.4%	1.5%	2.9%	2.0%	2.7%	3.1%	3.7%
Black							
High School Dropout	29.5%	26.1%	25.8%	29.7%	34.6%	30.8%	35.2%
High School Graduate	14.3%	8.4%	12.4%	16.0%	18.3%	25.4%	21.6%
College Graduate	3.3%	0.0%	2.0%	0.0%	6.6%	18.9%	0.0%
Gender							
Female	10.1%	8.1%	7.7%	9.5%	11.7%	14.7%	13.3%
Male	4.5%	3.8%	4.8%	3.7%	4.2%	6.0%	6.6%
Marital Status by Gender							
Never-Married Male	15.9%	11.1%	16.4%	13.2%	17.3%	26.0%	17.6%
Married Male	2.3%	2.2%	2.6%	1.9%	1.7%	3.4%	3.2%
Widowed Male	8.0%	5.1%	9.1%	6.8%	7.5%	9.8%	7.1%
Divorced Male	15.2%	11.8%	14.7%	16.7%	19.8%	9.4%	49.4%
Never-Married Female	20.5%	39.2%	20.5%	21.3%	17.8%	10.4%	18.2%
Married Female	2.4%	1.7%	2.4%	2.2%	2.2%	5.4%	3.3%
Widowed Female	15.3%	12.7%	12.3%	15.5%	16.6%	17.5%	14.4%
Divorced Female	24.4%	25.5%	24.4%	23.1%	26.0%	23.3%	21.2%

Notes:

1) Uses a real discount rate of 3.0% to convert wealth to asset income.

2) Annuitizes 80% of wealth.

3) Imputed rental income is excluded from total family income.

Source: Authors' calculations based on 1990-1993 SIPP.

Poverty rates among older individuals increased with age for several reasons. First, as with family income, much of the increase in poverty with age reflected the fact that earnings were less than fully offset by Social Security benefits for older individuals. Second, the higher share of single people (predominantly widows) as individuals age increased measured poverty by raising the per capita income required to exceed the higher poverty threshold for singles than for couples. Third, many defined benefit pensions were not updated for increases in prices, and had no provision for paying survivor benefits. As a consequence, pension incomes declined with age, contributing to higher poverty rates.

4. Contribution to Poverty Rate by Subgroup

The contribution of any subgroup of the population to the overall poverty rate among older individuals equals the product of the group's poverty rate and its share of the 62- to 89-year-old population. A subgroup of the population will contribute more to overall poverty if its share in the population is large and its own poverty rate is high (see Table 6).

Table 6. Contributions of Subgroups to Poverty in the Early 1990s			
	Percent of Retirees	Poverty Rate	Contribution to Poverty
Total	100.0%	7.8%	7.8%
Educational Attainment			
High School Dropout	40.7%	13.7%	5.6%
High School Graduate	46.6%	4.0%	1.9%
College Graduate	12.7%	2.5%	0.3%
Race			
White non-Hispanic	85.4%	5.6%	4.8%
Black	7.7%	23.8%	1.8%
Hispanic	4.7%	18.8%	0.9%
Asian/Native American	2.2%	11.8%	0.3%
Gender			
Female	58.6%	10.1%	5.9%
Male	41.4%	4.5%	1.9%
Marital Status			
Never-Married	4.6%	18.5%	0.9%
Married	60.0%	2.3%	1.4%
Widowed	28.2%	14.2%	4.0%
Divorced	7.2%	20.9%	1.5%
Marital Status by Gender			
Never-Married Male	2.0%	15.9%	0.3%
Married Male	32.1%	2.3%	0.7%
Widowed Male	4.5%	8.0%	0.4%
Divorced Male	2.7%	15.2%	0.4%
Never-Married Female	2.6%	20.5%	0.5%
Married Female	27.9%	2.4%	0.7%
Widowed Female	23.8%	15.3%	3.6%
Divorced Female	4.4%	24.4%	1.1%
Age			
62 to 64	15.5%	6.2%	1.0%
65 to 69	27.8%	6.4%	1.8%
70 to 74	23.2%	7.1%	1.6%
75 to 79	16.7%	8.7%	1.5%
80 to 84	12.4%	11.6%	1.4%
85 to 89	4.5%	11.2%	0.5%
Notes: 1) Uses a real discount rate of 3.0% to convert wealth to asset income. 2) Annuitizes 80% of wealth. 3) Imputed rental income is excluded from total family income. Source: Authors' calculations based on 1990-1993 SIPP.			

Among educational subgroups in the early 1990s, high school dropouts contributed 5.6 percentage points to the overall 62- to 89-year-old poverty rate of 7.8 percent, high school graduates contributed 1.9 points, and college graduates contributed only 0.3 points. White non-Hispanics contributed more to the overall poverty (4.8 percentage points) than other ethnic groups because, although their poverty rates were the lowest among ethnic groups, they represented over 85 percent of the 62- to 89-year-old population. Females contributed more to elderly poverty than males (5.9 percentage points for females compared with 1.9 percentage points for males) because they comprised 58.6 percent of the aged population and their poverty rate was more than twice as high as the poverty rate for males.

Widow(er)s contributed 4.0 percentage points to the overall poverty rate in the early 1990s—more than any other marital group. Although they did not comprise the largest share of the aged population and their poverty rate was not the highest, they represented 28.2 percent of the 62- to 89-year-old population and 14.2 percent of them were in poverty. Widows contributed 9 times more to the overall poverty rate (3.6 percentage points) than widowers (0.4 percentage points). Finally, for each successive age group among the 62- to 89-year-old population, the share of retirees decreased more than poverty rates increased, so that the contribution to overall poverty decreased with age.

5. Importance of Sources of Income in Reducing Poverty

In order to evaluate the contribution of various sources of income to raising total income above the poverty line, we calculate poverty rates based on selected income sources only. We stack Social Security income and earnings first and then successively add defined benefit pension income, financial income, SSI, co-resident income, and other income not projected in MINT¹¹ to compute the marginal impact of each income source on family poverty rates.¹²

If aged families in the early 1990s had only received their Social Security income and earnings, the overall poverty rate for them would have been 28.4 percent (see Table 7). Adding successive income sources reduces the poverty rate—pension income to 20 percent, financial income to 15.6 percent, SSI to 14.4 percent, co-resident income to 10 percent, and income not included in MINT to 7.8 percent. Note that the relative contribution of each income source would have differed had we added the components in a different order.

¹¹ Non-MINT income was a very important source of income for about 2 percent of the population in the early 1990s. This income mostly reflects types of pensions that MINT will count in other categories – railroad retirement benefits (which MINT will project as Social Security benefits) and other retirement income and life insurance annuities (which MINT will project as DB survivor pensions). Veterans benefits, unemployment benefits, and miscellaneous cash and lump sum payments are more likely to be excluded entirely from the MINT projections, thus producing some understatement of projected income in 2020 compared with income in the early 1990s. But these sources of income represent a small amount of income for a small share of the population, so the bias from excluding them is small.

¹² We use the poverty threshold for the aged unit when considering only aged unit income. When we add co-resident income, we use the full family poverty threshold so that the reduction in income relative to poverty that co-residents add by contributing income to the elderly household unit is offset to some degree by the higher poverty threshold associated with adding more people to the unit.

Table 7. Marginal Contributions of Income Sources to Poverty in the Early 1990s¹

	Social Security and Earnings	Add Pensions	Add Financial Income	Add SSI	Add Co-resident Income	Add Other Income
Total	28.4%	20.0%	15.6%	14.4%	10.0%	7.8%
Educational Attainment						
High School Dropout	38.1%	31.6%	26.1%	24.0%	16.7%	13.7%
High School Graduate	22.4%	13.2%	9.1%	8.5%	5.7%	4.0%
College Graduate	19.4%	7.8%	5.5%	5.1%	3.7%	2.5%
Race						
White non-Hispanic	24.5%	16.1%	11.3%	10.7%	7.6%	5.6%
Black	52.7%	42.2%	40.5%	38.1%	27.7%	23.8%
Hispanic	50.8%	42.7%	39.7%	34.7%	21.6%	18.8%
Asian/Native American	49.8%	45.9%	41.4%	31.5%	14.2%	11.8%
Gender						
Female	33.6%	25.2%	19.6%	18.3%	12.3%	10.1%
Male	21.0%	12.7%	9.9%	8.8%	6.6%	4.5%
Marital Status by Gender						
Never-Married Male	53.6%	40.1%	31.5%	29.0%	20.4%	15.9%
Married Male	15.6%	8.3%	6.2%	5.3%	4.0%	2.3%
Widowed Male	34.5%	22.3%	16.5%	15.3%	11.3%	8.0%
Divorced Male	38.8%	29.4%	26.5%	24.5%	20.1%	15.2%
Never-Married Female	55.6%	42.0%	37.0%	35.0%	21.6%	20.5%
Married Female	15.0%	8.1%	5.8%	5.0%	3.8%	2.4%
Widowed Female	48.7%	39.5%	30.0%	28.8%	18.4%	15.3%
Divorced Female	57.1%	46.1%	40.0%	35.9%	27.8%	24.4%
Age						
62 to 64	24.0%	16.0%	13.4%	12.4%	7.9%	6.2%
65 to 69	24.5%	16.6%	13.5%	12.3%	8.6%	6.4%
70 to 74	26.8%	17.8%	13.8%	12.6%	9.4%	7.1%
75 to 79	29.6%	20.7%	16.3%	15.2%	10.8%	8.7%
80 to 84	38.9%	30.9%	22.3%	21.2%	14.1%	11.6%
85 to 89	43.6%	34.5%	24.0%	21.7%	13.5%	11.2%
Percentage Point Reduction		-8.4%	-4.4%	-1.2%	-4.4%	-2.2%
Percent Reduction		-29.6%	-22.0%	-7.7%	-30.6%	-22.0%

¹Poverty rates are calculated first including only Social Security and earnings. We add pensions, financial income, SSI, and co-resident income one at a time to measure the marginal impact of each income source to alleviating poverty.

Notes:

1) Uses a real discount rate of 3.0% to convert wealth to asset income.

2) Annuityizes 80% of wealth.

3) Imputed rental income is excluded from total family income.

Source: Authors' calculations based on 1990-1993 SIPP.

While Social Security and earnings are the two largest sources of income for the aged, they are not enough by themselves to keep almost 30 percent of this population out of poverty. Even after adding pensions and financial income, nearly one-sixth of aged individuals would have been in poverty.

Displaying the contribution of separate income sources highlights the fact that co-resident income keeps many older individuals from falling into poverty. In the early 1990s, co-resident income made the poverty rate for older individuals 30 percent below the rate that would have

prevailed based on all sources of income counted in MINT. Co-resident income was especially important for keeping unmarried individuals out of poverty.

V. RETIREMENT INCOME IN 2020

In this section, we report MINT projections of per capita family income, family income divided by the poverty threshold, and poverty rates in 2020 among the population aged 62 to 89 and its subgroups. As with 1990, we describe how important various income sources are for the projected economic well-being of retirees. After describing the projections, we compare the 2020 projections with the observed values in the early 1990s.

1. Per Capita Income by Source

The ratio of per capita income to the average wage is projected to increase by 10 percent between the early 1990s and 2020, rising from 87 to 96 percent of the average wage over that time interval (see Table 8). MINT projects that, as a percentage of the average wage, Social Security benefits will increase from 24 to 27 percent, income from financial assets from 11 to 29 percent, income from earnings from 14 to 17 percent, and imputed income from owner-occupied homes from 5 to 6 percent. Income from private defined benefit pension plans will decrease from 12 to 8 percent, reflecting the shift from defined benefits to defined contribution plans. Income from other nonspouse family members will drop by almost half, from 15 to 8 percent. While always a small program, SSI will mostly disappear, with average SSI benefits dropping to less than 1 percent of the average wage in 2020.

The growth in the ratio of average per capita income to the average wage for the 62 and over population between the early 1990s and 2020 reflects both changes in the relative sizes of subgroups of the population and increases in per capita income relative to the average wage within subgroups. Between the two periods, the share of high school dropouts is expected to decline by nearly 75 percent (from 40.7 to 10.6 percent) and the share of college graduates is expected to more than double (from 12.7 to 28.9 percent). Total income for high school dropouts is projected to decrease from 68 to 57 percent of the average wage, while total income for college graduates is projected to increase from 133 to 139 percent of the average wage.

Per capita income is expected to increase for White non-Hispanics (from 89 to 100 percent of the average wage) and Asian/Native Americans (from 109 to 116 percent of the average wage). But it will decrease slightly for Hispanics (from 72 to 70 percent of the average wage) and for Blacks (from 68 to 67 percent of the average wage). Among gender/marital groups, the largest increases in total income are projected for divorced males (from 98 to 118 percent of the average wage), never-married males (from 92 to 108 percent of the average wage), and married females (from 80 to 91 percent of the average wage).

**Table 8. Average per Capita Income as a Percent of the Average Wage in 2020
by Income Source**

	Percent of Retirees	Total	Social Security	Financial Asset Income ¹	Earnings	DB Pension Income	Imputed Rental Income	SSI	Co- resident Income
Total	100.0%	0.96	0.27	0.29	0.17	0.08	0.06	0.00	0.08
Educational Attainment									
High School Dropout	10.6%	0.57	0.21	0.07	0.07	0.03	0.03	0.01	0.14
High School Graduate	60.5%	0.82	0.27	0.20	0.15	0.07	0.05	0.00	0.07
College Graduate	28.9%	1.39	0.30	0.57	0.26	0.10	0.10	0.00	0.06
Race									
White non-Hispanic	79.5%	1.00	0.28	0.33	0.18	0.08	0.07	0.00	0.06
Black	8.8%	0.67	0.24	0.09	0.12	0.07	0.03	0.00	0.11
Hispanic	7.6%	0.70	0.22	0.11	0.13	0.05	0.04	0.00	0.14
Asian/Native American	4.1%	1.16	0.24	0.38	0.22	0.06	0.08	0.01	0.18
Gender									
Female	56.2%	0.93	0.27	0.27	0.16	0.08	0.07	0.00	0.09
Male	43.8%	0.99	0.27	0.33	0.19	0.08	0.06	0.00	0.05
Marital Status by Gender									
Never-Married Male	2.1%	1.08	0.25	0.46	0.17	0.08	0.05	0.01	0.07
Married Male	32.8%	0.92	0.26	0.30	0.20	0.08	0.06	0.00	0.03
Widowed Male	3.1%	1.26	0.33	0.45	0.13	0.11	0.09	0.00	0.15
Divorced Male	5.8%	1.18	0.30	0.39	0.22	0.09	0.07	0.00	0.11
Never-Married Female	3.3%	0.96	0.22	0.19	0.26	0.07	0.05	0.01	0.15
Married Female	28.8%	0.91	0.27	0.30	0.17	0.08	0.06	0.00	0.03
Widowed Female	13.7%	0.98	0.30	0.27	0.07	0.08	0.09	0.00	0.17
Divorced Female	10.4%	0.91	0.26	0.19	0.19	0.06	0.06	0.00	0.15
Age									
62 to 64	19.6%	1.05	0.20	0.25	0.42	0.06	0.06	0.00	0.07
65 to 69	27.9%	0.99	0.29	0.30	0.20	0.07	0.07	0.00	0.07
70 to 74	22.5%	0.97	0.31	0.32	0.10	0.09	0.07	0.00	0.08
75 to 79	14.5%	0.88	0.29	0.31	0.06	0.08	0.07	0.00	0.07
80 to 84	9.6%	0.83	0.27	0.29	0.03	0.09	0.06	0.00	0.10
85 to 89	6.0%	0.82	0.25	0.30	0.02	0.10	0.05	0.00	0.10
Shared AIME Quintile at 62									
1	20.0%	0.48	0.15	0.10	0.06	0.03	0.03	0.01	0.11
2	20.0%	0.65	0.24	0.14	0.10	0.04	0.04	0.00	0.09
3	20.0%	0.81	0.28	0.19	0.14	0.07	0.06	0.00	0.07
4	20.0%	1.11	0.32	0.36	0.20	0.10	0.08	0.00	0.06
5	20.0%	1.73	0.36	0.69	0.36	0.15	0.12	0.00	0.06
Per Capita Income Quintile									
1	20.0%	0.34	0.16	0.03	0.01	0.01	0.02	0.01	0.11
2	20.0%	0.53	0.26	0.08	0.04	0.03	0.04	0.00	0.09
3	20.0%	0.72	0.29	0.14	0.10	0.07	0.05	0.00	0.06
4	20.0%	1.04	0.31	0.27	0.21	0.11	0.08	0.00	0.06
5	20.0%	2.16	0.34	0.96	0.50	0.16	0.14	0.00	0.06

Notes:

1) Uses a real discount rate of 3.0% to convert wealth to asset income.

2) Annuitizes 80% of wealth.

3) Imputed rental income is excluded from total family income.

Source: Authors' calculations based on MINT3.

There will be a larger share of younger elderly in 2020 than in the early 1990s and a smaller share of the oldest elderly. This increases the share of those with higher incomes (the young) and reduces the share of those with lower incomes (the old). At the same time, total income is projected to increase for all age groups. The biggest gain in per capita income is projected for 70- to 74-year-olds (16.9 percent—from 83 percent to 97 percent), while the smallest gain in per capita income is projected for 85- to 89-year-olds (1.2 percent—from 81 percent to 82 percent).

Between the early 1990s and 2020, the ratio of per capita income of 62 and over individuals to the average wage is projected to decline for the three lowest per capita income quintiles and to increase for the two highest per capita income quintiles. For the lowest quintile, total income will decline by 37.0 percent (from 54 to 34 percent of the average wage). For the highest quintile, total income will increase by 43.1 percent (from 151 to 216 percent of the average wage).

MINT projects that Social Security benefits will increase as a percentage of the average wage between the early 1990s and 2020 for the younger aged, but decrease for the older aged. The increase for the younger aged reflects higher benefits paid to women as they increase their lifetime employment. It also reflects earlier benefit take-up among the younger aged in 2020 than for the same age groups in the early 1990s. The decrease in benefits at older ages reflects the decline in the share of older retirees who are widowed in 2020 compared with 1990. Widows receiving survivor benefits typically receive higher per capita Social Security benefits than do married women, who largely receive spousal benefits or lower worker benefits.

In 2020, a larger share of income will come from financial assets and a smaller share from DB pensions than in the early 1990s. This reflects the large shift from defined benefit pensions to defined contribution pensions and other retirement savings over the 30-year period. The increase in financial assets between 1990 and 2020 is largest for the younger aged because they have had more years to contribute to retirement accounts.¹³ While the increase in financial assets is greater than the decline in DB pensions, most of the increase is for individuals in the top income groups. Asset income is typically very unevenly distributed, and retirement saving accounts accentuate this inequality.

2. Family Income Divided by Poverty

Average family income as a ratio of poverty is projected to increase between the early 1990s and 2020 by 62.7 percent, from 3.46 to 5.69 times the poverty level (see Table 9). The increase in poverty-adjusted income largely reflects the wage growth assumptions of the Office of the Chief Actuary that are incorporated in MINT. Because wages are expected to grow faster than prices, poverty-adjusted family income (where poverty thresholds increase by the CPI and incomes increase by wage growth) will be higher in the future. Even after adjusting for changes in family size, the ratio of total income to the poverty level is projected to increase for all subgroups.

¹³ Many of the 62- to 64-year-olds have not yet retired and are still contributing to their retirement accounts.

**Table 9. Average Family Income as a Percent of Poverty in 2020,
by Age**

	All	Age					
		62-64	65-69	70-74	75-79	80-84	85-89
Total	5.69	6.50	6.05	5.68	5.11	4.62	4.48
Educational Attainment							
High School Dropout	2.98	3.29	3.09	2.87	2.87	2.76	2.81
High School Graduate	4.83	5.47	5.03	4.76	4.35	4.23	4.12
College Graduate	8.46	10.13	8.94	8.05	7.65	6.77	6.60
Race							
White non-Hispanic	6.06	7.06	6.52	6.08	5.38	4.87	4.70
Black	3.65	4.29	3.72	3.43	3.33	2.88	3.08
Hispanic	3.77	4.28	3.93	3.66	2.97	3.11	3.06
Asian/Native American	6.34	7.49	6.67	5.93	6.24	4.90	3.45
Gender							
Female	5.27	6.25	5.75	5.25	4.63	4.21	4.03
Male	6.22	6.78	6.38	6.21	5.81	5.31	5.47
Marital Status by Gender							
Never-Married Male	4.88	4.56	5.20	5.11	4.12	4.82	5.17
Married Male	6.58	7.29	6.72	6.62	6.11	5.50	5.58
Widowed Male	5.36	6.29	5.55	5.37	5.24	4.29	5.22
Divorced Male	5.14	5.36	5.36	4.79	4.97	5.01	4.82
Never-Married Female	4.03	4.77	4.21	4.10	3.04	2.70	3.42
Married Female	6.55	7.29	6.85	6.34	5.99	5.45	5.69
Widowed Female	3.96	4.59	4.48	4.22	3.74	3.62	3.36
Divorced Female	3.81	4.50	3.99	3.89	3.15	3.17	3.02
Shared AIME Quintile at 62							
1	2.57	2.42	2.46	2.37	2.81	3.08	2.84
2	3.67	3.94	3.69	3.66	3.45	3.55	3.46
3	4.78	5.28	5.02	4.85	4.23	4.11	4.13
4	6.92	7.90	7.45	7.09	6.14	5.39	5.02
5	10.50	12.98	11.62	10.42	8.91	6.99	6.94
Per Capita Income Quintile							
1	1.75	1.76	1.76	1.74	1.74	1.76	1.72
2	2.99	3.29	3.12	2.99	2.73	2.66	2.59
3	4.31	4.98	4.49	4.32	3.81	3.62	3.55
4	6.27	7.56	6.59	6.14	5.44	5.07	4.92
5	13.12	14.93	14.27	13.19	11.83	10.02	9.61

Notes:

- 1) Uses a real discount rate of 3.0% to convert wealth to asset income.
- 2) Annuitizes 80% of wealth.
- 3) Imputed rental income is excluded from total family income.

Source: Authors' calculations based on MINT3.

3. Poverty Rates

The projected increase in incomes between the early 1990s and 2020 will cause the overall poverty rate for the 62- to 89-year-old population to decrease by 46.2 percent, from 7.8 to 4.2 percent (see Table 10). This decline in poverty largely reflects the effects of higher real earnings on real Social Security benefits and other retirement income. Older retirees in 2020 (young retirees today) had higher real earnings over their lifetimes than older retirees in the 1990s, while younger retirees in 2020 are projected to have higher lifetime earnings (including their projected real earnings over the next 20 years) than their counterparts who retired in the 1990s.

**Table 10. Percent of Individuals in Poverty in 2020,
by Age**

	All	Age					
		62-64	65-69	70-74	75-79	80-84	85-89
Total	4.2%	4.6%	4.1%	4.0%	4.0%	3.9%	4.7%
Educational Attainment							
High School Dropout	11.9%	12.6%	10.8%	10.7%	13.0%	12.5%	12.5%
High School Graduate	3.8%	4.2%	4.1%	4.0%	3.2%	2.8%	3.9%
College Graduate	2.1%	2.5%	2.2%	2.1%	1.9%	1.8%	1.6%
Race							
White non-Hispanic	3.1%	3.5%	3.1%	2.9%	3.0%	3.0%	3.7%
Black	10.1%	10.1%	9.4%	10.9%	9.2%	11.2%	11.9%
Hispanic	7.8%	6.8%	7.1%	8.8%	10.1%	7.8%	8.3%
Asian/Native American	5.1%	5.4%	5.3%	3.3%	6.0%	3.7%	13.5%
Race by Education							
Non-Black							
High School Dropout	10.4%	10.6%	10.2%	9.2%	11.8%	10.9%	10.2%
High School Graduate	3.3%	3.6%	3.4%	3.3%	3.0%	2.4%	3.6%
College Graduate	1.9%	2.2%	2.1%	1.8%	1.7%	1.7%	1.7%
Black							
High School Dropout	19.0%	24.3%	13.5%	17.6%	18.5%	20.7%	28.1%
High School Graduate	8.6%	8.3%	8.9%	10.7%	5.4%	7.6%	7.7%
College Graduate	4.8%	5.6%	3.9%	6.8%	4.5%	3.3%	0.0%
Gender							
Female	5.0%	5.1%	4.8%	4.8%	4.9%	5.4%	6.0%
Male	3.1%	4.1%	3.3%	3.0%	2.8%	1.4%	1.9%
Marital Status by Gender							
Never-Married Male	13.5%	10.9%	11.9%	17.9%	16.8%	12.1%	24.9%
Married Male	1.7%	2.3%	2.2%	1.3%	1.2%	0.9%	1.1%
Widowed Male	3.2%	3.0%	2.5%	5.0%	3.0%	1.4%	3.7%
Divorced Male	7.2%	10.7%	6.0%	6.7%	8.3%	2.6%	0.0%
Never-Married Female	16.5%	14.4%	12.3%	18.6%	20.5%	24.4%	23.9%
Married Female	1.4%	1.8%	1.4%	1.2%	1.1%	1.2%	1.2%
Widowed Female	5.2%	4.8%	5.2%	5.2%	4.6%	5.6%	5.6%
Divorced Female	11.2%	12.1%	12.0%	9.8%	11.0%	9.4%	13.9%

Notes:

1) Uses a real discount rate of 3.0% to convert wealth to asset income.

2) Annuitizes 80% of wealth.

3) Imputed rental income is excluded from total family income.

Source: Authors' calculations based on MINT3.

While poverty rates decline for all age groups, the poverty rates for the younger age groups do not decline as much as for older age groups. Between the early 1990s and 2020, the prevalence of poverty is projected to decrease from 6.2 to 4.6 percent for 62- to 64-year-olds (a 26 percent reduction) and from 11.2 to 4.7 percent for 85- to 89-year-olds (a 58 percent reduction).

Poverty rates are projected to decrease for all educational groups. The percentage point drop will be greatest for those without a high school degree (from 13.7 to 11.9 percent). Poverty rates are also projected to decline for all ethnic groups, but they will decline more for Blacks (from 23.8 to 10.1 percent) and Hispanics (from 18.8 to 7.8 percent) than for White non-Hispanics (from 5.6 to 3.1 percent). Overall poverty will decline for both men and women, but women's poverty rates decline more (from 10.1 to 5.0 percent) than men's rates do (from 4.5 to 3.1 percent). Despite the reduction in poverty for women, the prevalence of poverty among women will remain higher than among men. Poverty rates are projected to decline among all marital status groups, but will remain very high among those who have never-married.

4. Contribution to Poverty Rate by Subgroup

Between the early 1990s and 2020, the poverty rate among high school dropouts in the 62- to 89-year-old population is projected to decrease from 13.7 percent to 11.9 percent. High school dropouts will be a much smaller share of this population (40.7 percent in the early 1990s compared with 10.6 percent in 2020). Consequently, high school dropouts will contribute 4.3 percentage points less to the poverty rate in 2020 (see Table 11) than they did in the early 1990s (1.3 percentage points in 2020 compared with 5.6 percentage points in the early 1990s). The contribution of high school graduates to poverty will increase from 1.9 to 2.3 percentage points, however, because both their poverty rate and their share of the total population will rise. The contribution of college graduates to poverty will also increase from 0.3 to 0.6 percentage points. Although their poverty rate remains just over 2 percent between the early 1990s and 2020, college graduates' share of the population is projected to rise from 12.7 to 28.9 percent.

The contributions to poverty of all ethnic groups are projected to decline between the periods, but they decline more in absolute terms for White non-Hispanics (from 4.8 to 2.5 percentage points) than for other ethnic groups. The larger poverty reductions for minorities compared with White non-Hispanics are offset by increases in their population share, yielding only small reductions in the contribution to poverty among minorities. White non-Hispanics have both declining poverty rates and a declining population share, which result in a larger overall reduction in their contribution to poverty.

Females will contribute far less to overall poverty among the elderly in 2020 (2.8 percentage points) than in the 1990s (5.9 percentage points), while the male contribution to poverty will decline only slightly from 1.9 percentage points in the early 1990s to 1.4 percentage points in 2020. This is the consequence of a large decline in the poverty rate of females and a slight decline in the poverty rate of males; population shares of the two groups change only slightly. Males will become a slightly larger share of the population because, as the group with the shorter life expectancy, projected increases in longevity increase their numbers in a given age range by relatively more than those for females.

**Table 11. Contributions of Subgroups to Poverty
in 2020**

	Percent of Retirees	Poverty Rate	Contribution to Poverty
Total	100.0%	4.2%	4.2%
Educational Attainment			
High School Dropout	10.6%	11.9%	1.3%
High School Graduate	60.5%	3.8%	2.3%
College Graduate	28.9%	2.1%	0.6%
Race			
White non-Hispanic	79.5%	3.1%	2.5%
Black	8.8%	10.1%	0.9%
Hispanic	7.6%	7.8%	0.6%
Asian/Native American	4.1%	5.1%	0.2%
Gender			
Female	56.2%	5.0%	2.8%
Male	43.8%	3.1%	1.4%
Marital Status			
Never-Married	5.4%	15.3%	0.8%
Married	61.7%	1.6%	1.0%
Widowed	16.8%	4.8%	0.8%
Divorced	16.1%	9.8%	1.6%
Marital Status by Gender			
Never-Married Male	2.1%	13.5%	0.3%
Married Male	32.8%	1.7%	0.6%
Widowed Male	3.1%	3.2%	0.1%
Divorced Male	5.8%	7.2%	0.4%
Never-Married Female	3.3%	16.5%	0.5%
Married Female	28.8%	1.4%	0.4%
Widowed Female	13.7%	5.2%	0.7%
Divorced Female	10.4%	11.2%	1.2%
Age			
62 to 64	19.6%	4.6%	0.9%
65 to 69	27.9%	4.1%	1.1%
70 to 74	22.5%	4.0%	0.9%
75 to 79	14.5%	4.0%	0.6%
80 to 84	9.6%	3.9%	0.4%
85 to 89	6.0%	4.7%	0.3%

Notes:

1) Uses a real discount rate of 3.0% to convert wealth to asset income.

2) Annuitizes 80% of wealth.

3) Imputed rental income is excluded from total family income.

Source: Authors' calculations based on MINT3.

The contribution to the elderly poverty rate by widowers is projected to decline dramatically from 4.0 to 0.8 percentage points. The reduced importance of widowhood in explaining elderly poverty occurs for two reasons. First, the share of the 62- to 89-year-old population that is widowed will decline from 28.2 to 16.8 percent due to greater longevity and an increase in the share of the young elderly that reflects the large baby boomer cohorts. Second, poverty rates will decline among widow(er)s from 14.2 to 4.8 percent. This decline in poverty reflects overall economic growth, the increased lifetime earnings of married women, increased Social Security coverage rates, and an increased prevalence of joint and survivor pensions in later cohorts. Between the early 1990s and 2020, the poverty rate among divorced individuals is

also projected to fall by more than 50 percent from 20.9 to 9.8 percent; however, their share of the aged population poverty is projected to increase sharply from 7.2 to 16.1 percent. As a result, divorced individuals will contribute slightly more to overall poverty in 2020 (1.6 percentage points) than in the early 1990s (1.5 percentage points).

Finally, the contribution to poverty of all age groups will decline between the early 1990s and 2020, but it will decline more for older than for younger age groups. Both the oldest and youngest age groups increase their share of the age 62- to 89-year-old population between the early 1990s and 2020, due to increased longevity and the baby boom cohorts moving into retirement. Seventy- to 84-year-olds will be a smaller share of the population and have lower poverty rates in 2020 than in the early 1990s. These age groups will experience larger reductions in their contributions to poverty than both the 62- to 69-year-olds and those ages 85 and over.

5. Importance of Sources of Income in Reducing Poverty

As with the 62- to 89-year-old population in the early 1990s, we display the contribution of various sources of income to raising income above the poverty line for the same age groups in 2020. We first calculate poverty rates including only Social Security income and earnings. Then we individually add other income sources and measure the marginal impact of each additional income source on family poverty rates.

With increases in Social Security benefits through wage growth and increased Social Security coverage rates, Social Security and earnings alone are projected to keep all but 10.4 percent of the aged population out of poverty in 2020, compared with 28.4 percent in the early 1990s (see Table 12). After adding pensions and financial income, 5.8 percent of aged individuals remain in poverty (compared with 15.6 percent based on the same income sources in the early 1990s). While SSI is a small program in 2020, including it in the income measure further reduces poverty to 5.4 percent (compared with 14.4 percent in the early 1990s). Co-resident income remains an extremely important source of income for reducing poverty of the aged. When co-resident income is added, poverty is reduced to 4.2 percent in 2020, compared with 10.0 percent in the early 1990s.

VI. EFFECTS OF USING DIFFERENT INCOME AND POVERTY MEASURES

1. Effects of Alternative Ways of Measuring Income

The general trends in estimated income and poverty remain about the same when one uses different income measures (Tables 13, 14, and 15). In Table 13, we display two separate measures of poverty for the early 1990s. The first measure, labeled “Census Measure,” uses the Census definition of income from assets (based on nominal income from interest, dividends, and other property income). In the second measure, labeled “UI Measure,” we use our definition of asset income (based on a real annuity income from 80 percent of financial assets). Because the latter measure includes a return on capital, it increases poverty-adjusted family income by 0.16 and reduces poverty by 0.2 percentage points. While income for all subgroups is higher for the UI measure than the Census measure, poverty isn’t lower for all subgroups. With the UI measure, the poverty rate is higher for college graduates, Hispanics and Asian/Native Americans, never-married females, and the youngest age group.

Table 12. Marginal Contributions of Income Sources to Poverty in 2020¹

	Social Security and Earnings	Add Pensions	Add Financial Income	Add SSI	Add Co-resident Income
Total	10.4%	8.8%	5.8%	5.4%	4.2%
Educational Attainment					
High School Dropout	25.2%	22.9%	18.2%	16.4%	11.9%
High School Graduate	9.2%	7.7%	5.0%	4.8%	3.8%
College Graduate	7.4%	6.1%	2.8%	2.7%	2.1%
Race					
White non-Hispanic	8.2%	6.7%	4.0%	3.8%	3.1%
Black	19.2%	16.6%	14.0%	13.6%	10.1%
Hispanic	19.3%	17.8%	12.6%	11.0%	7.8%
Asian/Native American	17.3%	15.6%	9.9%	8.1%	5.1%
Gender					
Female	12.3%	10.4%	7.0%	6.6%	5.0%
Male	7.8%	6.7%	4.1%	3.9%	3.1%
Marital Status by Gender					
Never-Married Male	28.3%	25.8%	19.2%	18.7%	13.5%
Married Male	4.9%	4.0%	2.2%	2.1%	1.7%
Widowed Male	12.6%	10.7%	5.5%	4.7%	3.2%
Divorced Male	14.8%	12.9%	8.6%	8.2%	7.2%
Never-Married Female	34.1%	30.4%	25.3%	24.2%	16.5%
Married Female	4.7%	3.8%	2.0%	1.7%	1.4%
Widowed Female	14.9%	11.9%	7.5%	6.8%	5.2%
Divorced Female	23.2%	20.7%	14.6%	14.3%	11.2%
Age					
62 to 64	10.1%	9.0%	6.1%	5.9%	4.6%
65 to 69	8.7%	7.9%	5.5%	5.2%	4.1%
70 to 74	9.7%	8.6%	5.5%	5.2%	4.0%
75 to 79	11.1%	9.4%	5.6%	5.2%	4.0%
80 to 84	13.3%	9.5%	6.0%	5.1%	3.9%
85 to 89	15.4%	11.0%	6.7%	5.9%	4.7%
Percentage Point Reduction		-1.6%	-3.0%	-0.4%	-1.2%
Percent Reduction		-15.4%	-34.1%	-6.9%	-22.2%

¹Poverty rates are calculated first including only Social Security and earnings. We add pensions, financial income, SSI, and co-resident income one at a time to measure the marginal impact of each income source to alleviating poverty.

Notes:

1) Uses a real discount rate of 3.0% to convert wealth to asset income.

2) Annuitizes 80% of wealth.

3) Imputed rental income is excluded from total family income.

Source: Authors' calculations based on MINT3.

**Table 13. Average Family Income as a Percent of Poverty and Percent of Retirees
Below Poverty in the Early 1990s
(Comparison of Census and UI Measure)**

	Average Family Income / Poverty Threshold			Percent of Retirees Below Poverty		
	Census Measure ¹	UI Measure ²	Difference	Census Measure ¹	UI Measure ²	Difference
Total	3.30	3.46	0.16	8.0%	7.8%	-0.2%
Educational Attainment						
High School Dropout	2.31	2.45	0.14	14.4%	13.7%	-0.7%
High School Graduate	3.55	3.72	0.17	4.0%	4.0%	0.0%
College Graduate	5.53	5.77	0.23	1.9%	2.5%	0.6%
Race						
White non-Hispanic	3.46	3.64	0.18	5.8%	5.6%	-0.2%
Black	2.12	2.18	0.06	24.4%	23.8%	-0.6%
Hispanic	2.26	2.33	0.07	18.7%	18.8%	0.1%
Asian/Native American	3.22	3.31	0.10	11.1%	11.8%	0.7%
Gender						
Female	3.04	3.19	0.15	10.4%	10.1%	-0.3%
Male	3.67	3.85	0.19	4.6%	4.5%	-0.1%
Marital Status						
Never-Married	2.57	2.65	0.08	17.9%	18.5%	0.6%
Married	3.85	4.04	0.20	2.4%	2.3%	-0.1%
Widowed	2.47	2.59	0.13	14.8%	14.2%	-0.6%
Divorced	2.46	2.56	0.10	21.1%	20.9%	-0.2%
Marital Status by Gender						
Never-Married Male	2.58	2.68	0.10	16.0%	15.9%	-0.1%
Married Male	3.88	4.07	0.19	2.4%	2.3%	-0.1%
Widowed Male	3.10	3.31	0.21	8.3%	8.0%	-0.3%
Divorced Male	2.85	3.02	0.17	15.7%	15.2%	-0.5%
Never-Married Female	2.56	2.63	0.07	19.3%	20.5%	1.2%
Married Female	3.80	4.01	0.20	2.5%	2.4%	-0.1%
Widowed Female	2.35	2.46	0.11	16.0%	15.3%	-0.7%
Divorced Female	2.22	2.27	0.05	24.5%	24.4%	-0.1%
Age						
62 to 64	4.14	4.28	0.14	5.8%	6.2%	0.4%
65 to 69	3.48	3.60	0.12	6.6%	6.4%	-0.2%
70 to 74	3.19	3.33	0.13	7.4%	7.1%	-0.3%
75 to 79	3.05	3.22	0.17	8.9%	8.7%	-0.2%
80 to 84	2.65	2.89	0.24	12.2%	11.6%	-0.6%
85 to 89	2.52	2.93	0.41	11.8%	11.2%	-0.6%

Notes:

¹The Census measure uses nominal income from interest, dividends, and other property income to represent income from assets. It also excludes imputed rental income from total family income.

²The UI measure uses a real discount rate of 3.0% to convert 80% of wealth to asset income. It also excludes imputed rental income from total family income.

Source: Authors' calculations based on 1990-1993 SIPP.

If we assume that people can spend down all of their wealth in retirement instead of only 80 percent of wealth and count this additional return of capital as income, then measured incomes are higher and poverty rates lower for all subgroups except divorced males (see Table 14).¹⁴ Using the alternative measure would have the largest poverty-reducing impact, in absolute terms, on high school dropouts, Blacks, the never-married, and the oldest age groups.

If one does not count any return on capital from financial assets in measured income, then overall measured income is lower and the poverty rate is higher for all subgroups (see Table 15). By this alternative measure, the overall poverty rate for the 62- to 89-year-old population would be 8.6 percent (compared with 7.8 percent for the UI measure). Using the alternative measure would have the largest poverty-increasing impact, in absolute terms, on high school dropouts, women, the never-married, and the oldest age groups.

2. Indexing the Poverty Threshold by Wages Instead of Prices

The data reported in this paper show poverty rates among the 62- to 89-year-old population declining significantly between the early 1990s and 2020, largely as a result of projected economic growth. Yet, there still may be a concern that, in spite of *absolute increases in well-being*, the relative living standards of retirees could decline. Over time, especially over long periods, society may come to alter its views about what constitutes a minimum standard of living. In particular, one criterion in judging the adequacy of retirement pensions has always been the extent to which people can maintain their preretirement living standards after retirement. For this purpose, the most common measure of income adequacy in retirement is the replacement rate—that is, the ratio of retirement benefits to preretirement earnings.

If the goal of policy were to prevent retirees from falling behind relative to average living standards of workers, then one might want to examine the consequences of indexing the poverty threshold by average wages instead of the consumer price index. If poverty thresholds were increased by wage growth rather than price growth, the overall poverty rate in 2020 would be 9.9 percent, rather than 4.2 percent—a difference of 5.7 percentage points (see Table 16). By this measure, the projected wage-adjusted poverty rate among the elderly is about 25 percent higher in 2020 than the poverty rate in the early 1990s (7.8 to 9.9 percent).

For all subgroups, poverty rates would be higher if they were wage-adjusted instead of price-adjusted. This is because wages are projected to increase by 3.5 times between the early 1990s and 2020, while prices are projected to increase by only about 2.3 times.¹⁵ Many retirees have enough income to put them just above the price-adjusted poverty threshold, but not enough income to put them above the wage-adjusted poverty threshold. The difference in poverty rate measures is largest for high school dropouts, Blacks and Hispanics, females, the unmarried, and older retirees. This is not surprising because these groups also had the highest price-adjusted poverty rates.

¹⁴ A small share of individuals have negative assets in retirement. They are worse-off by annuitizing 100 percent of their debt than annuitizing 80 percent of their debt.

¹⁵ Based on the intermediate assumptions in Table V.B1 of the 2002 OASDI Trustees Report.

**Table 14. Average Family Income as a Percent of Poverty
and Percent of Retirees Below Poverty in the Early 1990s
(Comparison of Annuitization of 80% and 100% of Asset Income)**

	Average Family Income / Poverty Threshold			Percent of Retirees Below Poverty		
	UI Measure ¹ (80%)	Alternative Measure ² (100%)	Difference	UI Measure ¹ (80%)	Alternative Measure ² (100%)	Difference
Total	3.46	3.63	0.17	7.8%	7.5%	-0.3%
Educational Attainment						
High School Dropout	2.45	2.54	0.09	13.7%	13.4%	-0.3%
High School Graduate	3.72	3.90	0.18	4.0%	3.9%	-0.1%
College Graduate	5.77	6.11	0.35	2.5%	2.3%	-0.2%
Race						
White non-Hispanic	3.64	3.83	0.19	5.6%	5.4%	-0.2%
Black	2.18	2.21	0.03	23.8%	23.5%	-0.3%
Hispanic	2.33	2.38	0.05	18.8%	18.6%	-0.2%
Asian/Native American	3.31	3.40	0.09	11.8%	11.8%	0.0%
Gender						
Female	3.19	3.34	0.15	10.1%	9.8%	-0.3%
Male	3.85	4.04	0.19	4.5%	4.3%	-0.2%
Marital Status						
Never-Married	2.65	2.77	0.11	18.5%	17.8%	-0.7%
Married	4.04	4.25	0.21	2.3%	2.2%	-0.1%
Widowed	2.59	2.71	0.12	14.2%	13.8%	-0.4%
Divorced	2.56	2.64	0.08	20.9%	20.6%	-0.3%
Marital Status by Gender						
Never Married Male	2.68	2.82	0.13	15.9%	15.1%	-0.8%
Married Male	4.07	4.27	0.20	2.3%	2.2%	-0.1%
Widowed Male	3.31	3.49	0.18	8.0%	7.8%	-0.2%
Divorced Male	3.02	3.12	0.11	15.2%	15.4%	0.2%
Never-Married Female	2.63	2.73	0.10	20.5%	20.0%	-0.5%
Married Female	4.01	4.22	0.21	2.4%	2.3%	-0.1%
Widowed Female	2.46	2.57	0.11	15.3%	15.0%	-0.3%
Divorced Female	2.27	2.34	0.06	24.4%	23.9%	-0.5%
Age						
62 to 64	4.28	4.43	0.14	6.2%	5.9%	-0.3%
65 to 69	3.60	3.76	0.15	6.4%	6.3%	-0.1%
70 to 74	3.33	3.49	0.16	7.1%	6.8%	-0.3%
75 to 79	3.22	3.41	0.19	8.7%	8.4%	-0.3%
80 to 84	2.89	3.08	0.19	11.6%	11.3%	-0.3%
85 to 89	2.93	3.16	0.23	11.2%	10.7%	-0.5%

Notes:

¹ The UI measure uses a real discount rate of 3.0% to convert 80% of wealth to asset income. It also excludes imputed rental income from total family income.

² The alternative measure uses a real discount rate of 3.0% to convert 100% of wealth to asset income. It also excludes imputed rental income from total family income.

Source: Authors' calculations based on 1990-1993 SIPP.

**Table 15. Average Family Income as a Percent of Poverty
and Percent of Retirees Below Poverty in the Early 1990s
(Comparison of Income With and Without a Return of Capital)**

	Average Family Income / Poverty Threshold			Percent of Retirees Below Poverty		
	UI Measure ¹ (With)	Alternative Measure ² (Without)	Difference	UI Measure ¹ (With)	Alternative Measure ² (Without)	Difference
Total	3.46	3.08	-0.39	7.8%	8.6%	0.8%
Educational Attainment						
High School Dropout	2.45	2.21	-0.24	13.7%	15.2%	1.5%
High School Graduate	3.72	3.30	-0.42	4.0%	4.6%	0.6%
College Graduate	5.77	5.02	-0.75	2.5%	2.5%	0.0%
Race						
White non-Hispanic	3.64	3.21	-0.43	5.6%	6.5%	0.9%
Black	2.18	2.10	-0.07	23.8%	24.6%	0.8%
Hispanic	2.33	2.22	-0.11	18.8%	19.5%	0.7%
Asian/Native American	3.31	3.12	-0.19	11.8%	12.4%	0.6%
Gender						
Female	3.19	2.84	-0.35	10.1%	11.3%	1.2%
Male	3.85	3.42	-0.43	4.5%	4.9%	0.4%
Marital Status						
Never-Married	2.65	2.38	-0.27	18.5%	20.7%	2.2%
Married	4.04	3.58	-0.46	2.3%	2.7%	0.4%
Widowed	2.59	2.29	-0.30	14.2%	16.0%	1.8%
Divorced	2.56	2.38	-0.18	20.9%	22.0%	1.1%
Marital Status by Gender						
Never-Married Male	2.68	2.37	-0.31	15.9%	17.7%	1.8%
Married Male	4.07	3.63	-0.45	2.3%	2.6%	0.3%
Widowed Male	3.31	2.80	-0.50	8.0%	8.8%	0.8%
Divorced Male	3.02	2.77	-0.25	15.2%	16.2%	1.0%
Never-Married Female	2.63	2.39	-0.24	20.5%	22.9%	2.4%
Married Female	4.01	3.53	-0.47	2.4%	2.8%	0.4%
Widowed Female	2.46	2.20	-0.26	15.3%	17.3%	2.0%
Divorced Female	2.27	2.14	-0.14	24.4%	25.6%	1.2%
Age						
62 to 64	4.28	4.03	-0.25	6.2%	6.2%	0.0%
65 to 69	3.60	3.30	-0.30	6.4%	6.8%	0.4%
70 to 74	3.33	2.96	-0.37	7.1%	7.7%	0.6%
75 to 79	3.22	2.73	-0.49	8.7%	9.7%	1.0%
80 to 84	2.89	2.36	-0.53	11.6%	14.2%	2.6%
85 to 89	2.93	2.24	-0.70	11.2%	13.9%	2.7%

Notes:

¹The UI measure uses a real discount rate of 3.0% to convert 80% of wealth to asset income. It also excludes imputed rental income from total family income.

²The alternative measure does not include any return on capital from asset income. It also excludes imputed rental income from total family income.

Source: Authors' calculations based on 1990-1993 SIPP.

Table 16. Price-Adjusted and Wage-Adjusted Poverty Rates in 2020			
	Price-Adjusted Poverty	Wage-Adjusted Poverty	Difference
Total	4.2%	9.9%	5.7%
Educational Attainment			
High School Dropout	11.9%	25.4%	13.5%
High School Graduate	3.8%	9.6%	5.8%
College Graduate	2.1%	4.8%	2.7%
Race			
White non-Hispanic	3.1%	7.7%	4.6%
Black	10.1%	21.4%	11.3%
Hispanic	7.8%	18.5%	10.7%
Asian/Native American	5.1%	11.9%	6.8%
Gender			
Female	5.0%	11.8%	6.8%
Male	3.1%	7.5%	4.4%
Marital Status			
Never-Married	15.3%	25.8%	10.5%
Married	1.6%	4.5%	2.9%
Widowed	4.8%	14.4%	9.6%
Divorced	9.8%	20.4%	10.6%
Marital Status by Gender			
Never-Married Male	13.5%	22.5%	9.0%
Married Male	1.7%	4.8%	3.1%
Widowed Male	3.2%	10.4%	7.2%
Divorced Male	7.2%	15.9%	8.7%
Never-Married Female	16.5%	28.0%	11.5%
Married Female	1.4%	4.3%	2.9%
Widowed Female	5.2%	15.3%	10.1%
Divorced Female	11.2%	22.9%	11.7%
Age			
62 to 64	4.6%	9.2%	4.6%
65 to 69	4.1%	9.6%	5.5%
70 to 74	4.0%	9.6%	5.6%
75 to 79	4.0%	10.4%	6.4%
80 to 84	3.9%	11.1%	7.2%
85 to 89	4.7%	11.8%	7.1%

Notes:
1) Uses a real discount rate of 3.0% to convert wealth to asset income.
2) Annuitizes 80% of wealth.
3) Imputed rental income is excluded from total family income.
Source: Authors' calculations based on MINT3.

VII. CONTRIBUTIONS OF ECONOMIC, DEMOGRAPHIC, AND POLICY CHANGES TO POVERTY IN 2020

In this section we consider how projections of future poverty rates are influenced by changes in the Social Security NRA, the proportion of retirees who are unmarried, and average relative earnings and earnings inequality for post-1950 birth cohorts. We present results for both price-adjusted and wage-adjusted poverty rates. Our discussion will focus on how the simulations affect wage-adjusted poverty rates.

1. Effects of Changes in the Normal Retirement Age

First, we consider what the poverty rate in 2020 would be if the NRA were not scheduled to increase. Under Social Security rules, individuals are paid their full Social Security benefit if they delay benefit take-up until the NRA. Individuals may take up benefits before the NRA (beginning at age 62), but annual benefits are then reduced to adjust for the fact that early retirees receive benefits over a longer period.

The NRA is 65 for retirees born before 1938, and is scheduled to increase for those born in the year 1938 or later. Table 17 describes how the NRA changes by year of birth. As long as individuals wait until their NRA to collect Social Security benefits, they will receive the full amount of their benefits. Currently, most individuals do not wait until age 65 to collect Social Security retirement benefits. In 1999, more than half of the benefits awarded were to retirees who opted to begin receiving Social Security benefits at age 62—despite the reduction in benefits (Social Security Administration 2000, Table 6.A4).¹⁶ For individuals who retired in 1999 (born prior to 1938), annual benefits can be reduced by as much as 20 percent for early retirement. As Table 17 shows, the annual benefit reduction for take-up at age 62 will be even greater for retirees born in 1938 or later. Early retirees in the 2020 population will have their benefits reduced by as much as 28.3 percent. Those born in 1960 or later will have their benefits reduced by as much as 30 percent.

Table 17. NRA and Social Security Reduction Factors by Year of Birth		
Birthyear	NRA	Reduction for Take-up at Age 62
1926-1937	65	20.0%
1938	65.17	20.8%
1939	65.33	21.7%
1940	65.50	22.5%
1941	65.67	23.3%
1942	65.83	24.2%
1943-1954	66	25.0%
1955	66.17	25.8%
1956	66.33	26.7%
1957	66.50	27.5%
1958	66.67	28.3%
1959	66.83	29.2%
1960+	67	30.0%

Source: Social Security Administration (2000).

¹⁶ This figure represents retired-worker benefits only and includes conversions from nondisabled widow(er)'s benefits to higher retired-worker benefits.

To simulate the effects of changes in the NRA, we calculate the impact of restoring the NRA to age 65, so that the benefits of those who retire at age 62 will be reduced by only 20 percent. In this simulation, we continue to incorporate the MINT projections of changes among cohorts in their lifetime earnings patterns and demographic characteristics. Though it is not realistic, we also assume that individuals do not change their retirement behavior in response to a change in the NRA. The result should give us the marginal effect on 2020 poverty of changes in the NRA for more recent birth cohorts. We expect that restoring the NRA to age 65 will reduce projected poverty rates in 2020 by raising Social Security benefits for early retirees born in 1938 or later.¹⁷

This is, in fact, the result we find. If the NRA were restored to 65, the overall wage-adjusted poverty rate in 2020 would be 9.3 percent—0.6 percentage points lower than the baseline poverty rate that MINT projects (see Table 18). Poverty rates would be lower for all subgroups of the population. While the NRA remains unchanged for individuals age 82 and older in 2020, some of these older individuals will have younger spouses receiving reduced benefits, and so their poverty is still slightly decreased by the simulation.

Changes in the NRA have differential effects on poverty rates among different subgroups of the retiree population. Among racial and ethnic groups, the impact of increasing the NRA is larger for Hispanic retirees (from 18.5 percent to 17.4 percent) and for Asian/Native American retirees (from 11.9 percent to 11.1 percent) than for White non-Hispanic and Black retirees. Among marital status/gender groups, divorced women and never-married and divorced men are projected to experience the largest absolute decline in their poverty rates. The projected poverty rate of divorced females declines from 22.9 percent under current law to 21.8 percent without the increase in the NRA. Projected poverty rates also decline for never-married males (from 22.5 to 21.1 percent) and divorced males (from 15.9 to 14.7 percent) without the increase in the NRA. These results suggest that the reduction in the current law Social Security replacement rate will push a greater proportion of individuals with the lowest incomes below the poverty line. (Note that Social Security benefits are actually rising over time under current law because of wage indexing; the increase in the NRA, however, lowers the ratio of benefits to Social Security average indexed monthly earnings—AIME).

2. Effects of Changes in Marital Composition of Retirees Between Early 1990s and 2020.

Second, we consider what the poverty rate in 2020 would be if the marital composition of retirees in 2020 looked like that of retirees in 1990. Table 19 compares the marital composition of retirees in the early 1990's computed from SIPP data with the projected marital composition of retirees in 2020 using the MINT projections. The findings suggest that future retirees are more likely than their predecessors to be divorced and less likely to be widowed. The projected change is more pronounced for female retirees than for male retirees. The projected share of divorced females in the 2020 retiree population is nearly 2.5 times higher than the share for their counterparts in the 1990 retiree population. Furthermore, the proportion of widowed females in the 2020 retiree population is projected to be 60 percent of what it was in the 1990 retiree population. Finally, a larger share of female retirees will have never married in 2020 than in the early 1990s. There are also pronounced differences in the marital composition of age groups. While the proportion of both widows and widowers increase at older ages, at all ages females are

¹⁷ If individuals retire earlier in response to a reduction in the NRA, then the lower NRA will not raise their incomes or reduce poverty by as much as we estimate in the absence of this behavior.

much more likely to be widowed than males. For the oldest age group, 35.9 percent of males were widowed in the early 1990s compared to 80.6 percent of females. These large differences are also expected for the future. These projections have implications for Social Security benefits, private pensions, and economic well-being in retirement.

	Price Adjusted Poverty			Wage Adjusted Poverty		
	Base	Sim.	Impact	Base	Sim.	Impact
Total	4.2%	3.9%	-0.3%	9.9%	9.3%	-0.6%
Educational Attainment						
High School Dropout	11.9%	11.5%	-0.4%	25.4%	24.2%	-1.2%
High School Graduate	3.8%	3.5%	-0.3%	9.6%	8.9%	-0.7%
College Graduate	2.1%	2.0%	-0.1%	4.8%	4.6%	-0.2%
Race						
White non-Hispanic	3.1%	2.9%	-0.2%	7.7%	7.2%	-0.5%
Black	10.1%	9.6%	-0.5%	21.4%	20.7%	-0.7%
Hispanic	7.8%	7.2%	-0.6%	18.5%	17.4%	-1.1%
Asian/Native American	5.1%	5.0%	-0.1%	11.9%	11.1%	-0.8%
Gender						
Female	5.0%	4.7%	-0.3%	11.8%	11.2%	-0.6%
Male	3.1%	2.9%	-0.2%	7.5%	6.8%	-0.7%
Marital Status						
Never Married	15.3%	14.8%	-0.5%	25.8%	25.0%	-0.8%
Married	1.6%	1.4%	-0.2%	4.5%	4.0%	-0.5%
Widowed	4.8%	4.6%	-0.2%	14.4%	14.0%	-0.4%
Divorced	9.8%	9.0%	-0.8%	20.4%	19.3%	-1.1%
Marital Status by Gender						
Never Married Male	13.5%	12.7%	-0.8%	22.5%	21.1%	-1.4%
Married Male	1.7%	1.6%	-0.1%	4.8%	4.3%	-0.5%
Widowed Male	3.2%	2.9%	-0.3%	10.4%	9.7%	-0.7%
Divorced Male	7.2%	6.6%	-0.6%	15.9%	14.7%	-1.2%
Never Married Female	16.5%	16.1%	-0.4%	28.0%	27.5%	-0.5%
Married Female	1.4%	1.2%	-0.2%	4.3%	3.8%	-0.5%
Widowed Female	5.2%	5.0%	-0.2%	15.3%	14.9%	-0.4%
Divorced Female	11.2%	10.3%	-0.9%	22.9%	21.8%	-1.1%
Age						
62 to 64	4.6%	4.5%	-0.1%	9.2%	8.7%	-0.5%
65 to 69	4.1%	3.7%	-0.4%	9.6%	8.8%	-0.8%
70 to 74	4.0%	3.7%	-0.3%	9.6%	8.9%	-0.7%
75 to 79	4.0%	3.6%	-0.4%	10.4%	9.6%	-0.8%
80 to 84	3.9%	3.8%	-0.1%	11.1%	11.0%	-0.1%
85 to 89	4.7%	4.7%	0.0%	11.8%	11.8%	0.0%

Notes:
1) Uses a real discount rate of 3.0% to convert wealth to asset income.
2) Annuitizes 80% of wealth.
3) Imputed rental income is excluded from total family income.
4) No behavioral response to the change in the normal retirement age.
Source: Authors' calculations based on MINT3.

Table 19. Marital Status of Retirees in 1990 and 2020, by Age and Sex

	Male		Female	
	1990	2020	1990	2020
All				
Never Married	4.9%	4.8%	4.4%	5.8%
Married	77.7%	75.0%	47.5%	51.3%
Widowed	10.8%	7.1%	40.5%	24.4%
Divorced	6.6%	13.1%	7.5%	18.4%
All	100.0%	100.0%	100.0%	100.0%
62-64				
Never Married	4.6%	6.6%	3.2%	7.6%
Married	80.9%	74.6%	61.4%	61.5%
Widowed	4.6%	4.1%	23.4%	11.8%
Divorced	9.9%	14.7%	11.9%	19.1%
All	100.0%	100.0%	100.0%	100.0%
65-69				
Never Married	6.1%	5.7%	4.4%	7.0%
Married	79.7%	74.8%	57.5%	58.2%
Widowed	6.2%	5.8%	28.8%	15.5%
Divorced	7.9%	13.7%	9.2%	19.2%
All	100.0%	100.0%	100.0%	100.0%
70-74				
Never Married	4.1%	4.0%	4.4%	5.3%
Married	80.2%	74.3%	47.9%	52.0%
Widowed	10.7%	7.7%	41.2%	22.6%
Divorced	5.0%	13.9%	6.6%	20.0%
All	100.0%	100.0%	100.0%	100.0%
75-79				
Never Married	4.8%	3.4%	4.6%	4.4%
Married	74.4%	74.1%	36.1%	45.5%
Widowed	16.1%	10.6%	53.5%	31.9%
Divorced	4.8%	11.9%	5.8%	18.1%
All	100.0%	100.0%	100.0%	100.0%
80-84				
Never Married	3.5%	2.8%	5.4%	4.4%
Married	67.7%	77.3%	21.9%	38.3%
Widowed	24.9%	10.3%	68.4%	41.0%
Divorced	3.8%	9.6%	4.3%	16.3%
All	100.0%	100.0%	100.0%	100.0%
85+				
Never Married	3.4%	2.5%	5.1%	3.8%
Married	58.9%	79.5%	11.2%	30.5%
Widowed	35.9%	10.5%	80.6%	52.9%
Divorced	1.8%	7.6%	3.2%	12.9%
All	100.0%	100.0%	100.0%	100.0%

Source: Authors' calculations based on 1990-1993 SIPP and MINT3 data.

The Social Security Administration pays retired-worker benefits, which are based on an individual's earnings history, to insured retirees. Because of auxiliary benefits, marital history also plays an important role in the computation of Social Security benefits. Individuals who are not insured based on their earnings may still be eligible for auxiliary benefits as (ex-)spouses or surviving (ex-)spouses of retired workers. These benefits are based on the earnings history of a living or deceased (ex-)spouse. When she becomes widowed, a woman may receive up to twice as much in auxiliary benefits as she did when she was married. The same is true for a divorced woman when her ex-husband dies. However, in order to qualify for any auxiliary benefits, divorced individuals must have been married to their living or deceased ex-spouses for at least ten years. Finally, because auxiliary benefits are paid only to those currently or previously married, individuals who never married are only eligible for retired-worker benefits at retirement. As the marital composition of retirees shifts toward more never-married and divorced individuals, auxiliary benefits received will decline, for any given amount of a worker's own earnings. Therefore, we expect projected changes in the marital composition of the population to increase poverty rates among future retirees, particularly for women.

The simulation we perform re-weights the 2020 population to produce the same marital composition within each sex and age group as existed in the early 1990s, holding constant average earnings and the distribution of average earnings in 2020. In most sex and age groups, this involves increasing the share of retirees who are married or widowed and decreasing the share of retirees who are never-married or divorced. With this simulation we incorporate the projected changes across cohorts in the NRA and lifetime earnings patterns. The result gives us the marginal effect on 2020 poverty of changes in mortality and marital status for more recent birth cohorts. We expect poverty to be lower under the simulation because there will be fewer unmarried retirees.

If the marital composition of the 2020 retiree population were identical to that of the 1990's retiree population, the result is that overall wage-adjusted poverty in 2020 would be 9.4 percent—0.5 percentage points lower than the baseline projection (see Table 20). Compared to the baseline, the simulation decreases the wage-adjusted poverty rate of individuals between age 62 and 74 and increases the wage-adjusted poverty rate of individuals age 80 and older. In the simulation, poverty rates decrease for the younger group because more of them are married with lower poverty rates and fewer are divorced with higher poverty rates. Poverty rates increase for the older group because more of them are widowed with higher poverty rates and fewer are married with lower poverty rates. Because the younger group is larger than the older group in 2020, the simulated reduction in the wage-adjusted poverty rates of the younger group dominates the increase in the poverty rates of the older group, and the overall poverty rate declines.

The simulation has the greatest impact on never-married females whose poverty rate increases 1.3 percentage points—from 28.0 percent under the baseline projections to 29.3 percent under the simulation. The simulation decreases the share of younger never-married females—those with higher incomes and lower poverty rates—and increases the share of older never-married females—those with lower incomes and higher poverty rates—to reflect the 1990 composition. The result is an increase in the overall poverty rate of never-married females. A similar story explains the simulation's projected increase in the poverty rates of never married men.

Table 20. Simulation Holding the Marital Composition of 1990 Constant

	Percent of Retirees		Price Adjusted Poverty			Wage Adjusted Poverty		
	Base	Sim.	Base	Sim.	Impact	Base	Sim.	Impact
Total	100.0%	100.0%	4.2%	3.7%	-0.5%	9.9%	9.4%	-0.5%
Educational Attainment								
High School Dropout	10.6%	11.1%	11.9%	11.0%	-0.9%	25.4%	25.1%	-0.3%
High School Graduate	60.5%	60.5%	3.8%	3.3%	-0.5%	9.6%	8.8%	-0.8%
College Graduate	28.9%	28.3%	2.1%	1.8%	-0.3%	4.8%	4.3%	-0.5%
Race								
White non-Hispanic	79.5%	79.3%	3.1%	2.7%	-0.4%	7.7%	7.1%	-0.6%
Black	8.8%	8.7%	10.1%	9.3%	-0.8%	21.4%	20.9%	-0.5%
Hispanic	7.6%	7.7%	7.8%	7.0%	-0.8%	18.5%	17.8%	-0.7%
Asian/Native American	4.1%	4.3%	5.1%	5.5%	0.4%	11.9%	12.3%	0.4%
Gender								
Female	56.2%	56.2%	5.0%	4.4%	-0.6%	11.8%	11.3%	-0.5%
Male	43.8%	43.8%	3.1%	2.8%	-0.3%	7.5%	6.9%	-0.6%
Marital Status								
Never Married	5.4%	4.6%	15.3%	15.9%	0.6%	25.8%	26.6%	0.8%
Married	61.7%	59.6%	1.6%	1.6%	0.0%	4.5%	4.4%	-0.1%
Widowed	16.8%	28.7%	4.8%	4.7%	-0.1%	14.4%	14.2%	-0.2%
Divorced	16.1%	7.2%	9.8%	9.8%	0.0%	20.4%	19.8%	-0.6%
Marital Status by Gender								
Never Married Male	2.1%	2.1%	13.5%	13.7%	0.2%	22.5%	23.5%	1.0%
Married Male	32.8%	33.9%	1.7%	1.7%	0.0%	4.8%	4.6%	-0.2%
Widowed Male	3.1%	4.8%	3.2%	2.9%	-0.3%	10.4%	10.1%	-0.3%
Divorced Male	5.8%	2.9%	7.2%	7.4%	0.2%	15.9%	15.7%	-0.2%
Never Married Female	3.3%	2.5%	16.5%	17.7%	1.2%	28.0%	29.3%	1.3%
Married Female	28.8%	25.6%	1.4%	1.4%	0.0%	4.3%	4.2%	-0.1%
Widowed Female	13.7%	23.8%	5.2%	5.1%	-0.1%	15.3%	15.1%	-0.2%
Divorced Female	10.4%	4.3%	11.2%	11.3%	0.1%	22.9%	22.5%	-0.4%
Age								
62 to 64	19.6%	19.6%	4.6%	3.8%	-0.8%	9.2%	8.1%	-1.1%
65 to 69	27.9%	27.9%	4.1%	3.4%	-0.7%	9.6%	8.7%	-0.9%
70 to 74	22.5%	22.5%	4.0%	3.5%	-0.5%	9.6%	8.4%	-1.2%
75 to 79	14.5%	14.5%	4.0%	3.6%	-0.4%	10.4%	10.4%	0.0%
80 to 84	9.6%	9.6%	3.9%	4.1%	0.2%	11.1%	12.3%	1.2%
85 to 89	6.0%	6.0%	4.7%	5.2%	0.5%	11.8%	13.2%	1.4%

Notes:

- 1) Uses a real discount rate of 3.0% to convert wealth to asset income.
- 2) Annuitizes 80% of wealth.
- 3) Imputed rental income is excluded from total family income.

Source: Authors' calculations based on MINT3.

3. Effects of Changes in Relative Earnings for Post-1950 Birth Cohorts

Third, we consider what the poverty rate in 2020 would be if those born after 1950 had the same relative earnings as those born before 1950.¹⁸ Table 21 reports projected average relative lifetime earnings by cohort in the MINT data. The data suggest that average lifetime earnings in relation to the national average wage will increase for retirees in each successive cohort born between 1931 and 1950, after which average lifetime earnings will decline slightly. The data also underscore changes between male and female earnings patterns. Male retirees born after 1945 are projected to have lower average lifetime earnings than do their predecessors, while female retirees born after 1945 are projected to have higher average lifetime earnings than their predecessors.

Table 21. Average Lifetime Earnings, by Cohort						
	1931-35	1936-40	1941-45	1946-50	1951-55	1956-60
All	0.67	0.72	0.75	0.80	0.79	0.78
Male	1.05	1.08	1.08	1.06	1.01	0.97
Female	0.32	0.38	0.45	0.55	0.58	0.60

Note: Average lifetime earnings are computed as the average of relative earnings from age 22 through age 62.
Source: Authors' calculations based on the MINT3 data.

The simulation is to make the average earnings of male and female retirees in the post-1950 cohorts look like the average earnings of their counterparts born between 1946 and 1950. To do this, we increase average lifetime earnings for male retirees born after 1950 and decrease average lifetime earnings for female retirees born after 1950. We continue to incorporate projected changes in the NRA, the dispersion of earnings within cohorts, and demographic characteristics. The result gives us the marginal effect on 2020 poverty of undoing changes in average lifetime earnings relative to the national average wage for more recent birth cohorts.

Table 22 reports the results of the simulation. We find that giving post-1950 birth cohorts the same relative average lifetime earnings as those born between 1946 and 1950 would have no impact on the overall wage-adjusted poverty rate. This finding may appear counterintuitive because the simulation raises lifetime earnings of the entire population by undoing the decline in relative earnings for those born after 1950. But the decrease in poverty from the increase in earnings of males is almost entirely offset by the increase in poverty from the decrease in earnings of females. This is because women contribute more to the overall poverty rate in 2020 than men by constituting a larger share of the population and by being nearly twice as likely as to be poor in retirement (see Table 11). Restoring the average earnings of earlier cohorts to those of later cohorts has the greatest adverse impact on Asian/Native Americans and never-married females—increasing their poverty rates by 0.3 percentage points. The simulation has the greatest positive impact on never-married males—decreasing their poverty rate by 0.9 percentage points.

¹⁸ As discussed above in the methodology section, MINT projects the ratio of earnings to the national average wage.

	Price Adjusted Poverty			Wage Adjusted Poverty		
	Base	Sim.	Impact	Base	Sim.	Impact
Total	4.2%	4.2%	0.0%	9.9%	9.9%	0.0%
Educational Attainment						
High School Dropout	11.9%	11.8%	-0.1%	25.4%	25.0%	-0.4%
High School Graduate	3.8%	3.9%	0.1%	9.6%	9.6%	0.0%
College Graduate	2.1%	2.2%	0.1%	4.8%	5.0%	0.2%
Race						
White non-Hispanic	3.1%	3.2%	0.1%	7.7%	7.7%	0.0%
Black	10.1%	10.1%	0.0%	21.4%	21.5%	0.1%
Hispanic	7.8%	8.0%	0.2%	18.5%	18.3%	-0.2%
Asian/Native American	5.1%	5.3%	0.2%	11.9%	12.2%	0.3%
Gender						
Female	5.0%	5.1%	0.1%	11.8%	11.8%	0.0%
Male	3.1%	3.1%	0.0%	7.5%	7.4%	-0.1%
Marital Status						
Never Married	15.3%	15.7%	0.4%	25.8%	25.7%	-0.1%
Married	1.6%	1.6%	0.0%	4.5%	4.5%	0.0%
Widowed	4.8%	4.8%	0.0%	14.4%	14.3%	-0.1%
Divorced	9.8%	9.9%	0.1%	20.4%	20.5%	0.1%
Marital Status by Gender						
Never Married Male	13.5%	12.7%	-0.8%	22.5%	21.6%	-0.9%
Married Male	1.7%	1.7%	0.0%	4.8%	4.7%	-0.1%
Widowed Male	3.2%	3.0%	-0.2%	10.4%	10.2%	-0.2%
Divorced Male	7.2%	7.2%	0.0%	15.9%	15.8%	-0.1%
Never Married Female	16.5%	17.6%	1.1%	28.0%	28.3%	0.3%
Married Female	1.4%	1.4%	0.0%	4.3%	4.3%	0.0%
Widowed Female	5.2%	5.2%	0.0%	15.3%	15.2%	-0.1%
Divorced Female	11.2%	11.4%	0.2%	22.9%	23.0%	0.1%
Age						
62 to 64	4.6%	4.7%	0.1%	9.2%	9.1%	-0.1%
65 to 69	4.1%	4.2%	0.1%	9.6%	9.5%	-0.1%
70 to 74	4.0%	4.0%	0.0%	9.6%	9.5%	-0.1%
75 to 79	4.0%	4.0%	0.0%	10.4%	10.5%	0.1%
80 to 84	3.9%	3.9%	0.0%	11.1%	11.1%	0.0%
85 to 89	4.7%	4.8%	0.1%	11.8%	11.8%	0.0%

Notes:
1) Uses a real discount rate of 3.0% to convert wealth to asset income.
2) Annuitizes 80% of wealth.
3) Imputed rental income is excluded from total family income.
Source: Authors' calculations based on MINT3.

4. Effects of Changes in the Earnings Distribution for Post-1950 Birth Cohorts

Finally, we examine what would happen to the poverty rate in 2020 if those born after 1950 had the earnings distribution of those born between 1946 and 1950. Projections of average lifetime earnings in the MINT data indicate that the earnings distribution will be less dispersed for post-1950 cohorts than it was for earlier cohorts—suggesting less earnings inequality among post-1950 cohorts (see Table 23). The findings also highlight changes in the lifetime earnings distributions between male and female retirees. The distribution of average lifetime earnings is

projected to be more dispersed for male retirees in the post-1950 cohorts (more inequality) and less dispersed for female retirees in the post-1950 cohorts (less inequality).

Table 23. Distribution of Average Lifetime Earnings, by Cohort						
Ratio of Fifth to First Quintile	1926-35	1936-40	1941-45	1946-50	1951-55	1956-60
All	13.90	11.82	12.39	13.04	13.09	12.56
Male	9.71	8.37	9.26	10.49	11.08	10.77
Female	104.13	50.78	28.48	20.36	17.49	16.09

Note: Average lifetime earnings are computed as the average of relative earnings from age 22 through age 62.
Source: Authors' calculations based on the MINT data.

The simulation is to make the earnings distribution of male and female retirees in the post-1950 cohorts look like the earnings distribution of their counterparts born between 1946 and 1950, holding average earnings within each cohort constant. For male retirees in the post-1950 cohorts, this means increasing the average lifetime earnings of those in the bottom quintiles and decreasing the average lifetime earnings of those in the top quintiles. For female retirees in the post-1950 cohorts, this means decreasing the average lifetime earnings of those in the bottom quintiles and increasing the average lifetime earnings of those in the top quintiles. Within each cohort, we hold average lifetime earnings constant. With this simulation we incorporate the changes between cohorts in their NRA, average lifetime earnings, and demographic characteristics that MINT projects. The result gives us the marginal effect on 2020 poverty of changes in the distribution of lifetime earnings for more recent birth cohorts.

We find that changes in the lifetime earnings distribution have no impact on the overall wage-adjusted poverty rate (see Table 24). For most subgroups of the population, the impact of the simulation is negligible. The simulation slightly increases the poverty rates of college graduates (from 4.8 to 4.9 percent) and Asian/Native American retirees (from 11.9 to 12.1 percent). This suggests that the distribution of average lifetime earnings of members of these subgroups has changed since the 1946-50 cohorts—with fewer of their members located in the bottom income quintile. As a result, imposing a 1946-50 lifetime earnings distribution on the post-1950 cohorts pushes a number of these people into poverty.

VIII. CONCLUSIONS

The Social Security Administration's Model of Income in the Near Term (MINT) projects that the overall price-adjusted poverty rate of the aged population will decline from 7.8 percent in the early 1990s to 4.2 percent in 2020 (a 46 percent reduction). For most subgroups of the 2020 retiree population, poverty rates are projected to be lower than for their predecessors. Despite increased earnings of women and projected real wage growth, however, some subgroups of the population will continue to experience persistently high poverty rates in the future. With increases in Social Security benefits through wage growth and increased Social Security

coverage rates, Social Security and earnings alone are projected to keep all but 10 percent of the aged population out of poverty in 2020—a drop from 28 percent in the early 1990s.

Table 24. Simulation Holding the Earnings Distribution Constant Between Cohorts						
	Price Adjusted Poverty			Wage Adjusted Poverty		
	Base	Sim.	Impact	Base	Sim.	Impact
Total	4.2%	4.3%	0.1%	9.9%	9.9%	0.0%
Educational Attainment						
High School Dropout	11.9%	11.9%	0.0%	25.4%	25.3%	-0.1%
High School Graduate	3.8%	3.9%	0.1%	9.6%	9.6%	0.0%
College Graduate	2.1%	2.2%	0.1%	4.8%	4.9%	0.1%
Race						
White non-Hispanic	3.1%	3.2%	0.1%	7.7%	7.7%	0.0%
Black	10.1%	10.1%	0.0%	21.4%	21.4%	0.0%
Hispanic	7.8%	7.9%	0.1%	18.5%	18.2%	-0.3%
Asian/Native American	5.1%	5.4%	0.3%	11.9%	12.1%	0.2%
Gender						
Female	5.0%	5.1%	0.1%	11.8%	11.7%	-0.1%
Male	3.1%	3.2%	0.1%	7.5%	7.5%	0.0%
Marital Status						
Never Married	15.3%	15.7%	0.4%	25.8%	25.8%	0.0%
Married	1.6%	1.6%	0.0%	4.5%	4.5%	0.0%
Widowed	4.8%	4.9%	0.1%	14.4%	14.3%	-0.1%
Divorced	9.8%	9.9%	0.1%	20.4%	20.3%	-0.1%
Marital Status by Gender						
Never Married Male	13.5%	13.4%	-0.1%	22.5%	22.4%	-0.1%
Married Male	1.7%	1.8%	0.1%	4.8%	4.8%	0.0%
Widowed Male	3.2%	3.0%	-0.2%	10.4%	10.4%	0.0%
Divorced Male	7.2%	7.4%	0.2%	15.9%	15.8%	-0.1%
Never Married Female	16.5%	17.2%	0.7%	28.0%	27.9%	-0.1%
Married Female	1.4%	1.4%	0.0%	4.3%	4.2%	-0.1%
Widowed Female	5.2%	5.3%	0.1%	15.3%	15.2%	-0.1%
Divorced Female	11.2%	11.3%	0.1%	22.9%	22.8%	-0.1%
Age						
62 to 64	4.6%	4.9%	0.3%	9.2%	9.2%	0.0%
65 to 69	4.1%	4.1%	0.0%	9.6%	9.5%	-0.1%
70 to 74	4.0%	4.0%	0.0%	9.6%	9.5%	-0.1%
75 to 79	4.0%	4.0%	0.0%	10.4%	10.4%	0.0%
80 to 84	3.9%	3.9%	0.0%	11.1%	11.1%	0.0%
85 to 89	4.7%	4.8%	0.1%	11.8%	11.8%	0.0%

Notes:
1) Uses a real discount rate of 3.0% to convert wealth to asset income.
2) Annuityizes 80% of wealth.
3) Imputed rental income is excluded from total family income.
Source: Authors' calculations based on MINT3.

This paper examines the factors affecting the projected changes in poverty among 62- to 89-year-olds between the early 1990s and 2020. We focus on five possible factors: changes in wage growth, scheduled increases in the NRA, changes in the marital composition of future retirees, and changes in the level and distribution of earnings among more recent birth cohorts. Not surprisingly, projections of overall real wage growth—determined outside of MINT—have

the largest effect on poverty rates in 2020. When we assume that poverty thresholds increase with wages, instead of prices, projected overall poverty rates increase by 2.1 percentage points to 9.9 percent in 2020 instead of declining by 3.6 percentage points to 4.2 percent. The hardest hit by the rise in wage-adjusted poverty would be those groups already at risk of absolute poverty—high school dropouts, Blacks and Hispanics, women, the unmarried, and the oldest of the aged population.

Controlling for wage growth, we find that projected changes in poverty rates were affected much more by projected changes in the NRA and marriage patterns than by changes in earnings patterns. When we restored the NRA to age 65, thereby reducing the early retirement penalty to Social Security benefits, we found that overall wage-adjusted poverty rates decreased by 0.6 percentage points. By imposing the gender/age/marital status composition of the early 1990s retirees on the 2020 retirees, we found that overall wage-adjusted poverty rates decreased by 0.5 percentage points. Changes in the distribution of earnings between and within cohorts had no effect on future poverty rates.

Changes in the relative earnings of men and women had little impact on wage-adjusted poverty rates, because the increases in female earnings were largely offset by decreases in male earnings. Also, changes in the distribution of earnings had little impact on wage-adjusted poverty rates partly because of the progressive Social Security payment formula. This formula replaces a greater share of earnings for those in the bottom of the earnings distribution and a lower share of earnings for those in the top of the distribution. The progressive payment formula makes postretirement income much more equally distributed than preretirement income.

Our simulations explain only about half of the change in wage-adjusted poverty rates between the early 1990s and 2020. Other possible sources, not examined in this paper, might include: loss of manufacturing-based defined benefit pension coverage; low participation rates in employer-sponsored defined contribution pension plans, especially among low-wage workers; poor investment returns in defined contribution plans and other retirement savings; other reductions in Social Security replacement rates, such as the change from the average monthly wage (AMW) formula to the AIME formula; lower saving rates for low-income families; and changes in disability insurance prevalence.

Finally, we note several limitations of MINT that may affect the results. MINT does not model behavioral responses to policy changes. MINT directly measures the experiences of survey respondents up to the early 1990s and statistically projects their characteristics into the future, adjusting for expected demographic and socioeconomic changes. The model implicitly assumes that future populations will behave the same way as past populations with regard to such choices as educational attainment, marriage partners, job types, and the decision to work. Furthermore, MINT assumes that the interdependence of the outcomes from such choices, like education and earnings, will remain unchanged in the near future.

MINT does not project immigration. While it includes immigrants represented in the base year SIPP surveys, it does not represent people who immigrated after the survey and those who will immigrate in future years. Because immigrants have lower average income than native-born Americans, MINT understates true poverty by not including them. Projected immigration might be included in future modeling work. Also, MINT does not project all sources of income. While these nonimputed sources in aggregate are small, they can be important for measuring the number of people who fall below a fixed poverty threshold.

Finally, MINT does not include all the elderly. In 2020, it is missing those age 90 and over. These oldest old have historically had the highest poverty rates. MINT understates aged poverty rates by omitting them. Although this group is very small and therefore contributes little to the aggregate poverty rate, it is growing over time.

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APPENDIX

COMPARISON WITH MINT1 POVERTY RATES

Smith and Toder (1999) used projections from MINT1 to project poverty rates among the retired population in 2020. The authors estimated that the poverty rate among retirees would increase from 7.9 percent in the early 1990s (about the same as the 7.8 percent poverty estimate in the same period in this paper) to 8.5 percent in 2020. Thus, Smith and Toder (1999) project poverty rates in 2020 that are about 4.3 percentage points above the poverty rates we project using MINT3.

Although changes in methodology in MINT3 account for some of the difference between these results and those of Smith and Toder (1999), the main source of the more optimistic projection of future poverty rates is the use of updated data on the growth in economy-wide wages. The actual growth in productivity and real wages in the late 1990s was much greater than the projected wage growth used in MINT1; the higher baseline wages raise the level of 2020 average earnings currently projected by OCACT. This change in economic assumptions is external to MINT. The large productivity gains of the late 1990s have made prospects for future retirees look much better than they appeared even a few years ago.¹⁹

A second major difference in these projections compared to Smith and Toder (1999) is that these projections include all individuals age 62 to 89. MINT1 projected retirement to begin at either age 62 or 67. Individuals in the later cohorts who did not retire at age 62 were not included in the analysis because of a limitation in the model. MINT3 projects incomes from age 50 (or the SIPP interview age if older than 50) until death. MINT3 includes many more individuals who work. These workers tend to have higher incomes and lower poverty rates compared to nonworkers. Including these workers lowers the aggregate poverty rates in 2020.

A third major difference in these projections compared to Smith and Toder (1999) is that MINT3 projects two additional sources of incomes: SSI and nonspouse co-resident income. SSI spending is extremely small, but half of SSI recipients get benefits high enough to lift them out of poverty. Co-resident income is much more substantial and is always poverty reducing. About 14 percent of individuals age 62 to 89 are projected to co-reside and about three percent will receive SSI. Omitting co-resident income increases poverty rates in 2020 from 4.2 percent to 5.4 percent. Omitting both co-resident income and SSI increases poverty rates in 2020 to 5.8 percent.

¹⁹ The average earnings in 2020 in MINT1 was \$69,334 and the poverty threshold for a couple was \$21,426 (31 percent of the average wage). In MINT3, the average earnings in 2020 is \$75,209 and the poverty threshold for a couple is \$19,672 (26 percent of the average wage). A couple projected to have family income between 26 and 31 percent of the average earnings would be in poverty in MINT1, but not in MINT3.

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