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Articles

Housing Expenditures of Social Security Beneficiaries, 2005–2018

by Patrick J. Purcell*

This article uses data from the public-use files of the Census Bureau's American Community Survey for selected years 2005–2018 to examine the annual housing expenditures of households that include at least one person who received income from Social Security, regardless of age. In all years, the median percentage of income spent on housing was higher in households that included at least one Social Security beneficiary than in households with no beneficiaries. In households with at least one Social Security beneficiary, the median share of income spent on housing varied by tenure. The median shares for renter households were 31.7 percent in 2005 and 32.5 percent in 2018. The median shares for homeowner households with a mortgage were 27.3 percent in 2005 and 25.1 percent in 2018. The median shares for homeowner households without a mortgage were 13.9 percent in 2005 and 12.4 percent in 2018.

Introduction

Housing is the largest single expenditure category for U.S. households. On average, in 2018, expenditures for housing were equal to 25.5 percent of household income among all U.S. households; among those with householders aged 65 or older, housing expenditures were equal to 32.8 percent of household income (Bureau of Labor Statistics 2020).[1] Although spending for health care may receive more attention in the media, housing expenditures typically are more than twice the amount of out-of-pocket spending for health care among households headed by individuals aged 65 or older (Johnson 2015).[2] Given the significance of housing expenditures in household budgets, trends in housing expenditures among Social Security beneficiaries are of potential interest to policymakers and the public.

Using data from the Consumer Expenditure Survey (CES),[3] the Social Security Administration (SSA) has documented the expenditure patterns of Americans aged 55 or older in the *Expenditures of the Aged Chartbook,* most recently with data for 2015 (SSA 2018a). This article focuses on the housing expenditures of households in which at least one person received income from Social Security, regardless of age. The data are from the public-use files of the Census Bureau's American Community Survey (ACS). The ACS collects a wide range of demographic and economic data from a representative sample of more than 3.2 million U.S. households.[4] With ACS data, research can examine topics such as housing tenure and expenditures and income sources and amounts, with detail by householder age, sex, marital status, and other demographic characteristics (Census Bureau 2014).[5] This analysis covers selected years from 2005 to 2018. Those years were chosen because full implementation of the ACS began in 2005 and data for 2018 were the most recent available when this research began.

Selected Abbreviations

ACS	American Community Survey
OASDI	Old-Age, Survivors, and Disability Insurance

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Housing Tenure, Household Income, and Percentage of Income Spent on Housing in 2018

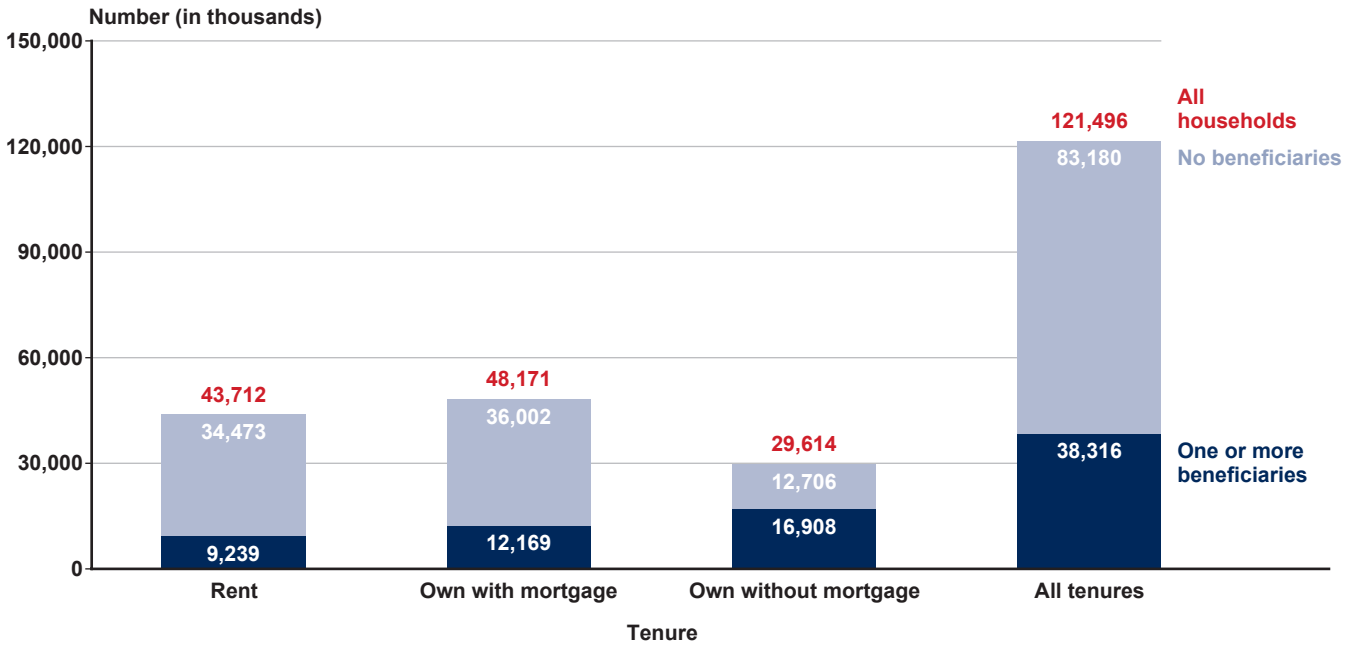
In 2018, an estimated 121.5 million households resided in the United States, distributed among three categories of housing tenure: renters, homeowners with mortgages, and homeowners without mortgages. Chart 1 shows that renter households numbered 43.7 million (36.0 percent) and homeowners numbered 77.8 million (64.0 percent). Among the homeowner households, 48.2 million (61.9 percent) had mortgages on their homes and 29.6 million (38.1 percent) did not; respectively, those groups accounted for 39.6 percent and 24.4 percent of all U.S. households.[6]

Of the 121.5 million U.S. households in 2018, 38.3 million (31.5 percent) included at least one person of any age who received Social Security (Old-Age, Survivors, and Disability Insurance, or OASDI) benefits (Table 1).[7] The 9.2 million renter households that included at least one beneficiary constituted 24.1 percent of all beneficiary households. Among households with mortgages, 12.2 million included one or more beneficiaries, constituting 31.8 percent of all beneficiary households. Homeowner households without mortgages in which at least one person received Social Security benefits numbered 16.9 million and constituted 44.1 percent of beneficiary households. Households with at least one Social Security beneficiary constituted 21.1 percent of renter households, 25.3 percent of households with mortgages, and 57.1 percent of homeowner households without mortgages.

The high percentage of beneficiary households among homeowners without mortgages indicates that the proportion of residents who have attained age 62—the earliest eligibility age for retired-worker benefits—is higher in these households than in the other tenure groups. Using data from the 2018 ACS, I calculate that the median age of homeowners without a mortgage was 66, and the median ages of homeowners with a mortgage and of renters were 53 and 44, respectively. The householder was aged 62 or older in 82.4 percent of households in which one or more people received income from Social Security in 2018. By contrast, the householder was 62 or older in only 8.8 percent of households with no Social Security beneficiaries.

Household income differed substantially across housing tenure groups in 2018. It was lower among renter households than among homeowners with or without mortgages; and among homeowners, it was lower for those without mortgages than for those with

Chart 1.
Number of households, by tenure and presence of OASDI beneficiaries, 2018



SOURCE: Author's calculations based on ACS data.

Table 1.
Number of U.S. households, and percentage distribution by householder characteristics and housing tenure: By presence of OASDI beneficiaries, selected years 2005–2018

Characteristic	2005	2010	2015	2018
All households: Number (in thousands)	114,682	114,542	118,178	121,496
	Households with one or more beneficiaries			
Number (in thousands)	30,104	32,463	36,253	38,316
Percentage distribution by householder—				
Age	100.0	100.0	100.0	100.0
18–61	20.4	20.4	19.0	17.6
62–69	26.9	29.2	30.6	29.4
70 or older	52.7	50.4	50.4	53.0
Marital status	100.0	100.0	100.0	100.0
Married couple	47.7	47.7	47.8	47.9
Unmarried male	14.9	15.8	16.7	17.1
Unmarried female	37.4	36.5	35.5	35.0
Race/ethnicity	100.0	100.0	100.0	100.0
Single race, non-Hispanic				
White	80.0	79.1	77.3	76.1
Black	10.1	10.1	10.6	10.9
American Indian/Alaska Native	0.6	0.5	0.5	0.6
Asian/Pacific Islander	2.2	2.4	2.9	3.1
Two or more races, non-Hispanic	0.9	1.1	1.2	1.3
Hispanic origin, any race(s)	6.3	6.8	7.5	8.1
Percentage distribution by housing tenure	100.0	100.0	100.0	100.0
Rent	22.5	23.6	24.6	24.1
Own with mortgage	29.0	31.4	31.8	31.8
Own without mortgage	48.6	45.1	43.5	44.1
	Households with no beneficiaries			
Number (in thousands)	84,578	82,079	81,926	83,180
Percentage distribution by householder—				
Age	100.0	100.0	100.0	100.0
18–61	95.7	94.1	92.6	91.3
62–69	3.2	4.7	5.9	7.1
70 or older	1.1	1.3	1.5	1.7
Marital status	100.0	100.0	100.0	100.0
Married couple	53.8	51.8	51.0	51.1
Unmarried male	20.0	20.5	21.3	21.6
Unmarried female	26.2	27.6	27.7	27.3
Race/ethnicity	100.0	100.0	100.0	100.0
Single race, non-Hispanic				
White	68.8	67.2	64.4	62.7
Black	12.3	12.4	12.7	12.7
American Indian/Alaska Native	0.7	0.6	0.6	0.6
Asian/Pacific Islander	4.4	4.7	5.4	5.8
Two or more races, non-Hispanic	1.2	1.6	1.9	2.2
Hispanic origin, any race(s)	12.5	13.5	15.1	15.9
Percentage distribution by housing tenure	100.0	100.0	100.0	100.0
Rent	37.0	38.9	42.3	41.4
Own with mortgage	51.4	48.9	43.5	43.3
Own without mortgage	11.6	12.1	14.2	15.3

SOURCE: Author's calculations based on ACS data.

NOTE: Rounded components of percentage distributions do not necessarily sum to 100.0.

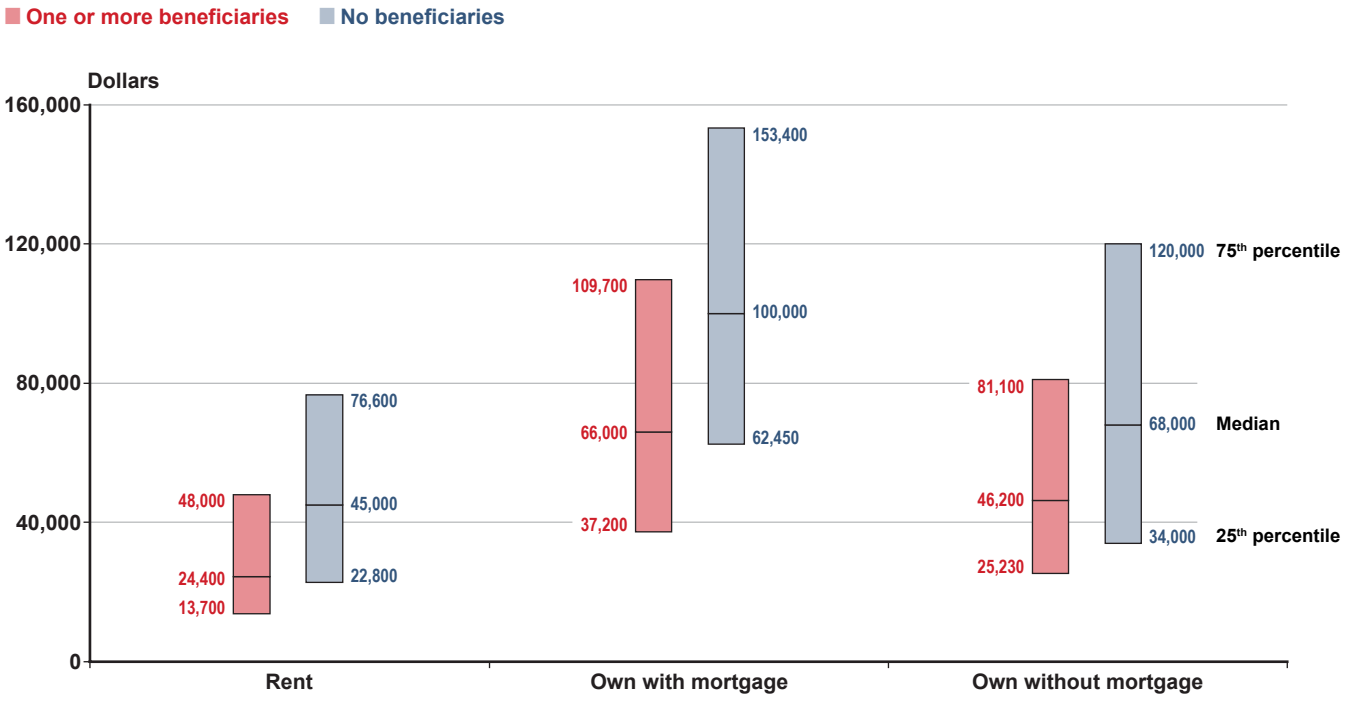
mortgages (Chart 2). One reason homeowners without mortgages had lower income than homeowners with mortgages is that the nonmortgage-holding householders were older on average, and thus were more likely to have retired from full-time employment. As noted above, in 2018 the median age of homeowners with mortgages was 53 while the median age of homeowners without mortgages was 66. Using 2018 ACS data, I calculate that 80 percent of 53-year-old householders were employed and only 17 percent were not in the labor force (3 percent were unemployed; not shown). By contrast, only 38 percent of 66-year-old householders were employed and 61 percent were not in the labor force (1 percent were unemployed).

Across all three tenure groups, households that included at least one person receiving Social Security benefits had lower income at the 25th, 50th, and 75th percentiles than did households in which there were no Social Security beneficiaries. This was due in part to the presence, on average, of fewer workers in households with Social Security beneficiaries than in nonbeneficiary households. Using ACS data for 2018, I calculate that households with no Social Security beneficiaries included an average of 1.6 people who reported having earned income during the preceding 12 months (not shown). Households with at least one Social Security beneficiary averaged only 0.6 residents who reported having earned income during the preceding 12 months.

ACS data on housing expenditures include amounts spent on shelter and utilities. Shelter expense categories include rent, mortgage interest and fees, property taxes, and homeowners' and renters' insurance. Utility expenses include water, electricity, gas, and heating oil.[8] The proportion of household income spent on housing in 2018 differed substantially across tenure groups (Chart 3). Renters spent a greater share of income on housing than did homeowners, and homeowners with mortgages spent a greater proportion of income on housing than did those without mortgages. Within each tenure category, households with one or more Social Security beneficiaries spent a larger proportion of household income on housing than did households with no Social Security beneficiaries. This result aligns with the data exhibited in Chart 2, which show that in all three categories of household tenure, households with one or more Social Security beneficiaries generally had lower incomes than households in which no one received income from Social Security.

Among beneficiary households, renters with the median ratio of housing expenditures to household

Chart 2.
Household income at the 25th, 50th (median), and 75th percentiles, by housing tenure and presence of OASDI beneficiaries, 2018



SOURCE: Author's calculations based on ACS data.

income spent nearly one-third of their income (32.5 percent) on housing, while the median ratio among homeowners with a mortgage was about one-quarter (25.1 percent). The median ratio of housing expenditures to household income for a nonmortgage-holding homeowner household with at least one Social Security beneficiary was only 12.4 percent in 2018. One-fourth of renter households with at least one Social Security beneficiary spent 57 percent or more of household income on housing in 2018. One-fourth of beneficiary households with mortgages spent 41 percent or more of income on housing. One-fourth of homeowning beneficiary households without mortgages spent 22 percent or more of income on housing expenditures for items such as property taxes, homeowners' insurance, and utilities.

In summary:

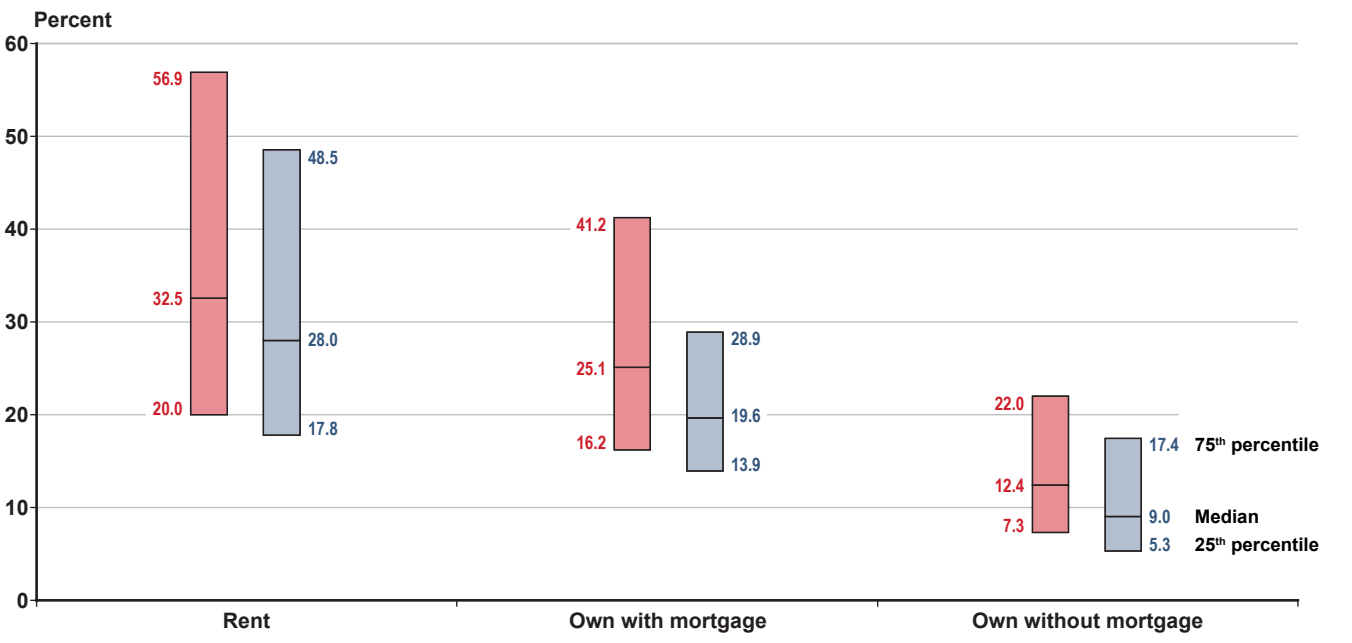
- Of the 121.5 million U.S. households in 2018, 38.3 million (31.5 percent) included at least one Social Security beneficiary.
- Among the 38.3 million households that included one or more Social Security beneficiaries in 2018, 24.1 percent were renters, 31.8 percent were homeowners with mortgages, and 44.1 percent were homeowners without mortgages.
- Among households with one or more Social Security beneficiaries in 2018, the median ratio of housing expenditures to household income was 32.5 percent for renter households, 25.1 percent for mortgage-holders, and 12.4 percent for homeowners without a mortgage.

Number of Households by Tenure and Receipt of Social Security Benefits, 2005–2018

From 2005 to 2018, the number of households in the United States rose from 114.7 million to 121.5 million (Table 1), a 5.9 percent increase. The number of households in which no one received Social Security benefits fell from 84.6 million to 83.2 million, a decrease of 1.7 percent. In that period, the number of households in which one or more people received income from Social Security rose by 27.3 percent, from 30.1 million to 38.3 million.

The number of households with one or more Social Security beneficiaries rose mainly because waves of individuals born during the 1946–1964 baby boom became eligible for and claimed retired-worker benefits. From December 2005 to December 2018, the number of Social Security beneficiaries rose by

Chart 3.
Percentage of household income spent on housing at the 25th, 50th (median), and 75th percentiles, by housing tenure and presence of OASDI beneficiaries, 2018



SOURCE: Author's calculations based on ACS data.

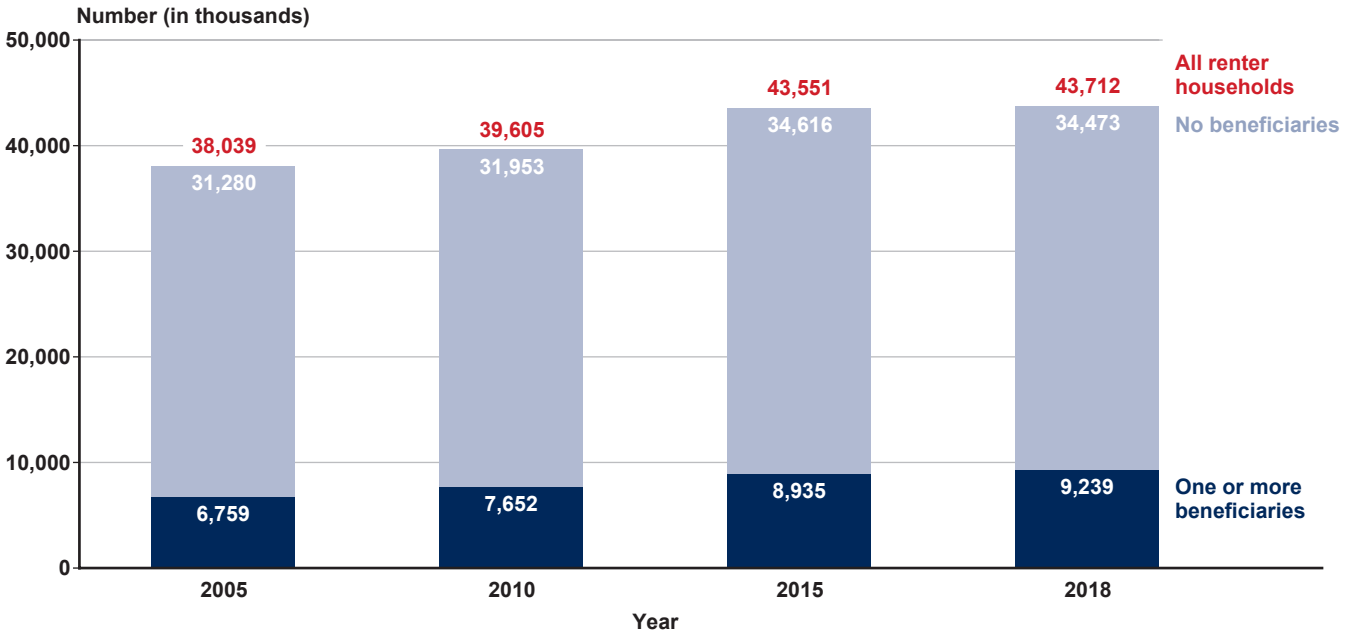
30.0 percent, from 48.4 million to 62.9 million. The number of Old-Age and Survivors Insurance beneficiaries increased by 31.4 percent, from 40.1 million to 52.7 million—substantially more than the increase in the number of Disability Insurance beneficiaries, which rose 22.9 percent, from 8.3 million to 10.2 million (SSA 2019, Table 5.A4).

During the period from 2005 to 2018, the number of renter households in the United States rose from 38.0 million to 43.7 million (Chart 4), a 14.9 percent increase. The number of renter households with no Social Security beneficiaries rose by 10.2 percent, from 31.3 million to 34.5 million, while the number of beneficiary renter households rose from 6.8 million to 9.2 million (36.7 percent). Households with one or more Social Security beneficiaries constituted 17.8 percent of renter households in 2005 and 21.1 percent of them in 2018. Conversely, renter households constituted 22.5 percent of the 30.1 million Social Security households in 2005 and 24.1 percent of the 38.3 million Social Security households in 2018 (Table 1).

From 2005 to 2018, the number of homeowner households with mortgages declined by 7.7 percent, from 52.2 million to 48.2 million (Chart 5). The number of nonbeneficiary households with mortgages declined by 17.2 percent, from 43.5 million to 36.0 million, but the number of beneficiary households with mortgages rose from 8.7 million to 12.2 million (39.5 percent). Beneficiary households accounted for 16.7 percent of all homeowner households with mortgages in 2005 and 25.3 percent of them in 2018. Homeowner households with mortgages constituted 29.0 percent of the 30.1 million Social Security households in 2005 and 31.8 percent of the 38.3 million Social Security households in 2018 (Table 1).

The increase in the number of Social Security beneficiary households with mortgages during this period coincided with an increase in the proportion of all older homeowners with mortgages. Collins, Hembre, and Urban (2018) examined data from the Census Bureau and reported that from 2000 through 2015, the number of households headed by individuals aged 65 or older who held mortgage debt rose by 3.6 million, "increasing older American mortgage usage by thirty-nine percent." Haurin, Loibl, and Moulton (2019), using data from the Health and Retirement Study, found that from 2004 to 2014, the proportion of households headed by persons aged 62–71 who had mortgage debt rose from 40 percent to 46 percent. Among households headed by persons aged 72 or older, the proportion with mortgage debt rose from 17 percent to 22 percent. The Joint Center for Housing Studies of Harvard University (2019) used data from the Federal Reserve Board's Survey of Consumer Finances to find

Chart 4.
Number of renter households, by presence of OASDI beneficiaries, selected years 2005–2018



SOURCE: Author's calculations based on ACS data.

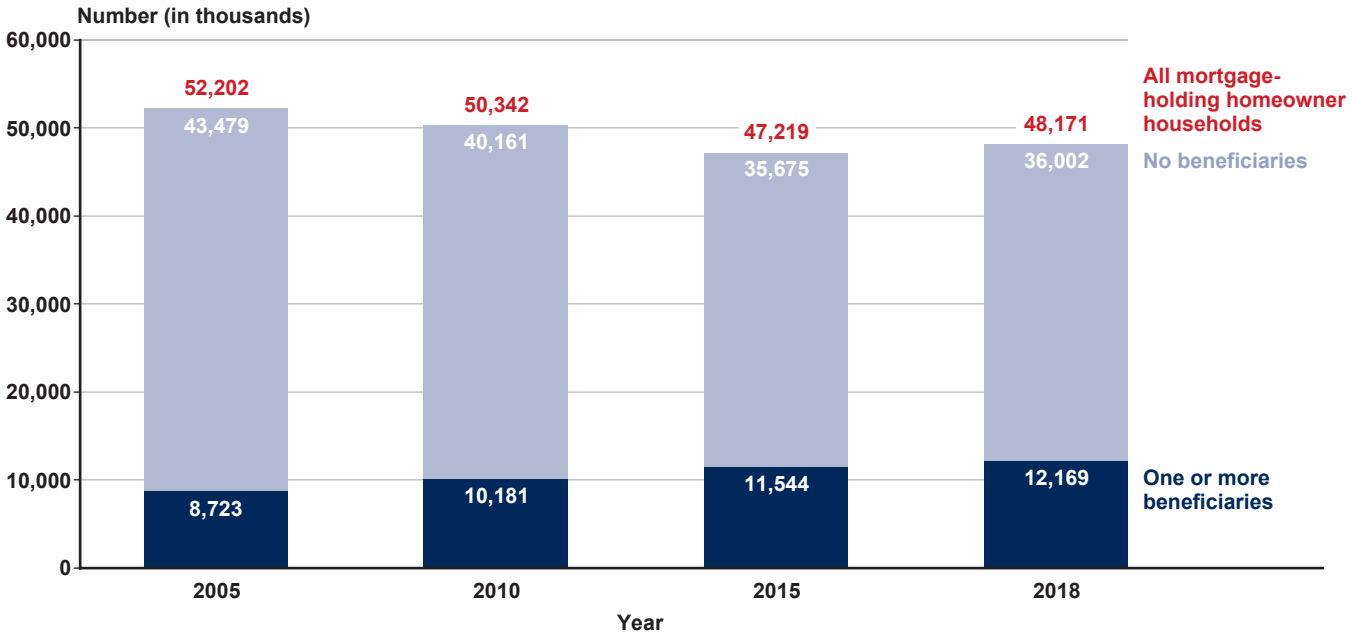
that, from 1989 to 2016, the proportion of households headed by individuals aged 65–79 who had mortgages or home equity loans increased from 24 percent to 46 percent. Over the same period, the proportion of households headed by individuals aged 80 or older who had mortgage debt rose from 3 percent to 26 percent.

The increase in retirement-age households with housing debt occurred in a period during which interest rates fell to historically low levels. Some older homeowners may have chosen to refinance their mortgages at lower interest rates and thereby extended the term of their loans into their retirement years. The availability of home equity loans and lines of credit also might have provided incentives for older homeowners to borrow against the equity in their homes. Other homeowners may have been unable to pay off their mortgage debts before retiring because of other financial obligations. For example, some older homeowners may have helped their adult children repay student loans or purchase first homes, delaying repayment of their own mortgage debt to do so.

From 2005 to 2018, the number of homeowner households without mortgages rose by 21.2 percent, from 24.4 million to 29.6 million (Chart 6). The number of nonbeneficiary, nonmortgage-holding homeowner households rose by 29.4 percent, from 9.8 million to 12.7 million, while the number of nonmortgage-holding beneficiary households rose from 14.6 million to 16.9 million (15.6 percent). Households that included one or more Social Security beneficiaries constituted 59.8 percent of all homeowner households without mortgages in 2005 and 57.1 percent of them in 2018. Nonmortgage-holding homeowner households accounted for 48.6 percent of the 30.1 million Social Security households in 2005 and 44.1 percent of the 38.3 million Social Security households in 2018 (Table 1).

From 2005 to 2018, the number of households with one or more Social Security beneficiaries increased by 8.2 million. Renter households accounted for 30.2 percent of that increase, as their numbers rose by 2.5 million. The number of beneficiary households with mortgages rose by 3.4 million, constituting 42.0 percent of the increase, and the number of nonmortgage-holding homeowner beneficiary households rose by 2.3 million, representing 27.8 percent of the increase. As noted earlier, the number of Old-Age and Survivors Insurance beneficiaries rose by 12.6 million from 2005 to 2018, accounting for 86.9 percent of the increase in the number of all beneficiaries during this period. Although retirees are more likely to have paid off their mortgages than younger people are, homeowner households without mortgages accounted for only about 28 percent of the increase in beneficiary households. The increase in

Chart 5.
Number of mortgage-holding homeowner households, by presence of OASDI beneficiaries, selected years 2005–2018



SOURCE: Author's calculations based on ACS data.

the proportion of older households with mortgages appears to account for the relatively small contribution of nonmortgage-holding homeowner households toward the overall increase in beneficiary households.

In summary:

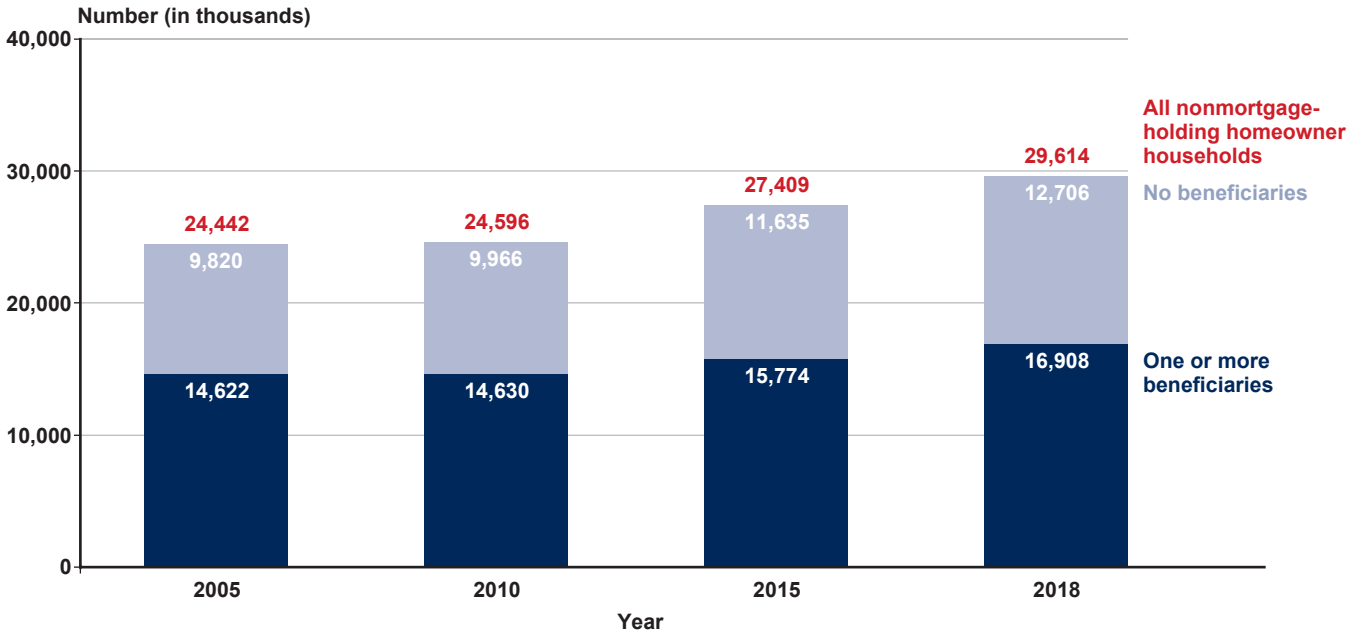
- From 2005 to 2018, the number of households in which at least one person received Social Security benefits increased by 27.3 percent, from 30.1 million to 38.3 million, while the number of nonbeneficiary households declined by 1.7 percent, from 84.6 million to 83.2 million.
- Households with one or more Social Security beneficiaries accounted for 26.2 percent of all households in 2005 and 31.5 percent of all households in 2018.
- Renter households constituted 22.5 percent of Social Security households in 2005 and 24.1 percent of Social Security households in 2018.
- Households with mortgages constituted 29.0 percent of Social Security households in 2005 and 31.8 percent of Social Security households in 2018.
- Homeowner households without mortgages constituted 48.6 percent of Social Security households in 2005 and 44.1 percent of Social Security households in 2018.

Household Income by Tenure and Receipt of Social Security Benefits, 2005–2018

In both 2005 and 2018, the median income of homeowner households was higher than that of renter households, and among homeowner households, it was higher among mortgage-holders than nonmortgage-holders (Table 2). In both years and all three tenure categories, median income was higher in households with no Social Security beneficiaries than in households with one or more beneficiaries.

From 2005 to 2018, the real median income of renter households with one or more Social Security beneficiaries rose 12.3 percent, from $21,730 to $24,400 (Chart 7). The real median income of nonbeneficiary renter households rose from $38,574 to $45,000 (16.7 percent). At the 25th percentile, the real income of beneficiary renter households rose from $12,871 to $13,700 (6.4 percent), while the real income of nonbeneficiary renter households rose 16.7 percent, from $19,544 to $22,800. At the 75th percentile, the real income of beneficiary renter households rose from $40,760 to $48,000 (17.8 percent), while the real income of nonbeneficiary renter households rose 16.8 percent, from $65,576 to $76,600.

Chart 6.
Number of nonmortgage-holding homeowner households, by presence of OASDI beneficiaries, selected years 2005–2018



SOURCE: Author's calculations based on ACS data.

Table 2.
Median annual income of U.S. households, by householder characteristics, housing tenure, and presence of OASDI beneficiaries: Selected years 2005–2018 (in 2018 dollars)

Characteristic	2005	2010	2015	2018
All households	58,208	57,348	58,587	61,000
Households with one or more beneficiaries				
All	39,757	42,032	44,819	45,900
By householder—				
Age				
18–61	50,146	48,596	49,794	53,700
62–69	49,118	51,821	52,866	51,400
70 or older	33,174	35,584	39,210	41,100
Marital status				
Married couple	58,247	62,070	66,215	67,300
Unmarried male	30,088	30,402	31,042	31,750
Unmarried female	24,430	26,141	27,863	28,300
Race/ethnicity				
Single race, non-Hispanic				
White	41,403	43,656	47,039	48,000
Black	28,031	30,517	31,783	33,100
American Indian/Alaska Native	30,088	31,323	30,883	33,800
Asian/Pacific Islander	58,118	60,458	62,507	64,200
Two or more races, non-Hispanic	36,260	38,290	41,001	42,900
Hispanic origin, any race(s)	34,331	37,081	38,352	39,400
By housing tenure				
Rent	21,730	23,147	24,367	24,400
Own with mortgage	61,461	63,106	65,156	66,000
Own without mortgage	39,217	41,457	45,344	46,200
Households with no beneficiaries				
All	65,576	63,341	65,898	70,000
By householder—				
Age				
18–61	66,862	64,143	66,745	70,000
62–69	64,740	69,094	71,195	72,200
70 or older	18,516	20,728	19,070	22,100
Marital status				
Married couple	90,006	89,995	95,350	99,800
Unmarried male	50,146	46,178	49,794	51,600
Unmarried female	38,574	38,002	39,200	41,000
Race/ethnicity				
Single race, non-Hispanic				
White	74,577	72,549	76,280	80,000
Black	42,432	40,996	41,318	44,000
American Indian/Alaska Native	46,289	42,723	43,437	46,500
Asian/Pacific Islander	77,148	80,610	84,756	92,000
Two or more races, non-Hispanic	55,290	55,276	60,812	64,000
Hispanic origin, any race(s)	48,346	46,788	48,734	53,000
By housing tenure				
Rent	38,574	38,002	42,378	45,000
Own with mortgage	90,251	90,180	95,986	100,000
Own without mortgage	61,976	60,918	65,686	68,000

SOURCE: Author's calculations based on ACS data.

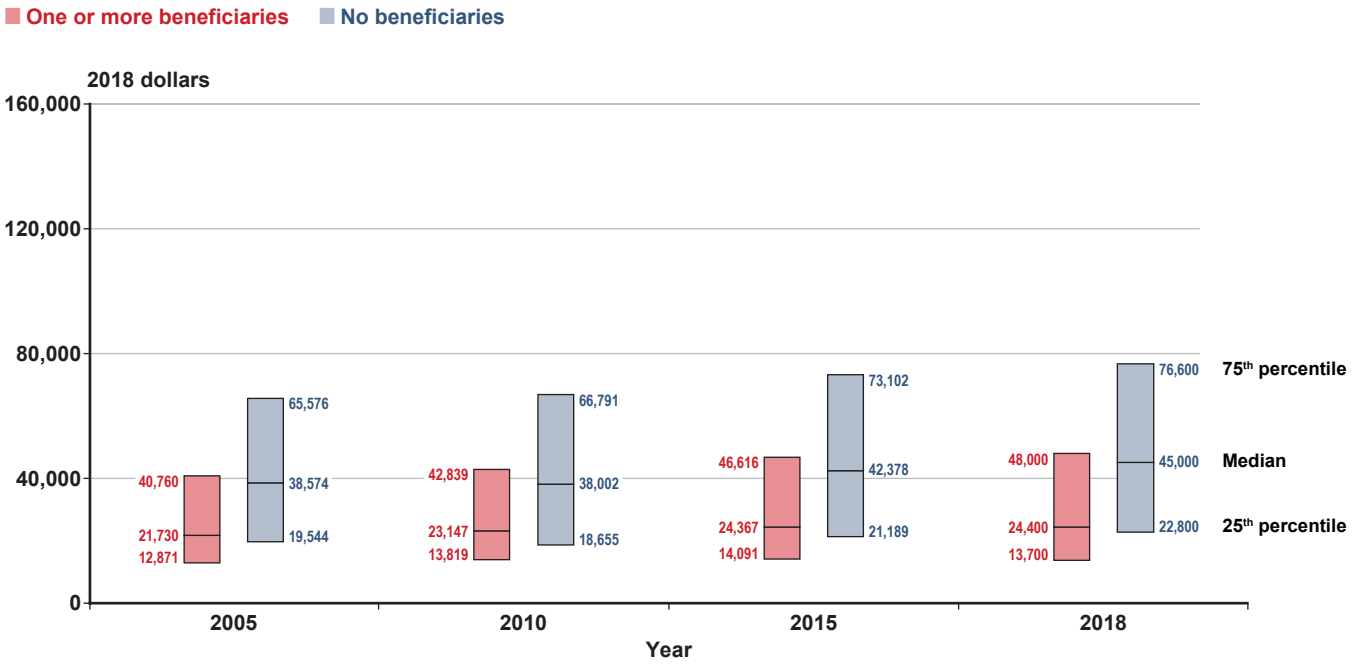
From 2005 to 2018, the real median income of beneficiary mortgage-holding households rose 7.4 percent, from $61,461 to $66,000 (Chart 8). The real median income of nonbeneficiary mortgage-holding households rose 10.8 percent, from $90,251 to $100,000. At the 25th percentile, the real income of beneficiary mortgage-holding households rose from $34,588 to $37,200 (7.6 percent), while that of mortgage-holding nonbeneficiary households rose 7.9 percent, from $57,861 to $62,450. At the 75th percentile, the real income of beneficiary mortgage-holding households rose from $102,093 to $109,700 (7.5 percent), and that of mortgage-holding nonbeneficiary households rose 13.6 percent, from $135,009 to $153,400.

From 2005 to 2018, the real median income of beneficiary homeowner households without mortgages rose 17.8 percent, from $39,217 to $46,200 (Chart 9). The real median income of nonbeneficiary homeowner households without mortgages rose from $61,976 to $68,000 (9.7 percent). At the 25th percentile, the real income of beneficiary nonmortgage-holding homeowner households rose from $22,167 to $25,230 (13.8 percent). The real income of nonbeneficiary homeowner households without mortgages rose 5.8 percent, from $32,145 to $34,000. At the 75th percentile, the real income of beneficiary nonmortgage-holding homeowner households rose from $67,505 to $81,100 (20.1 percent). The real income of nonbeneficiary nonmortgage-holding homeowner households rose 12.6 percent, from $106,593 to $120,000.

In summary:

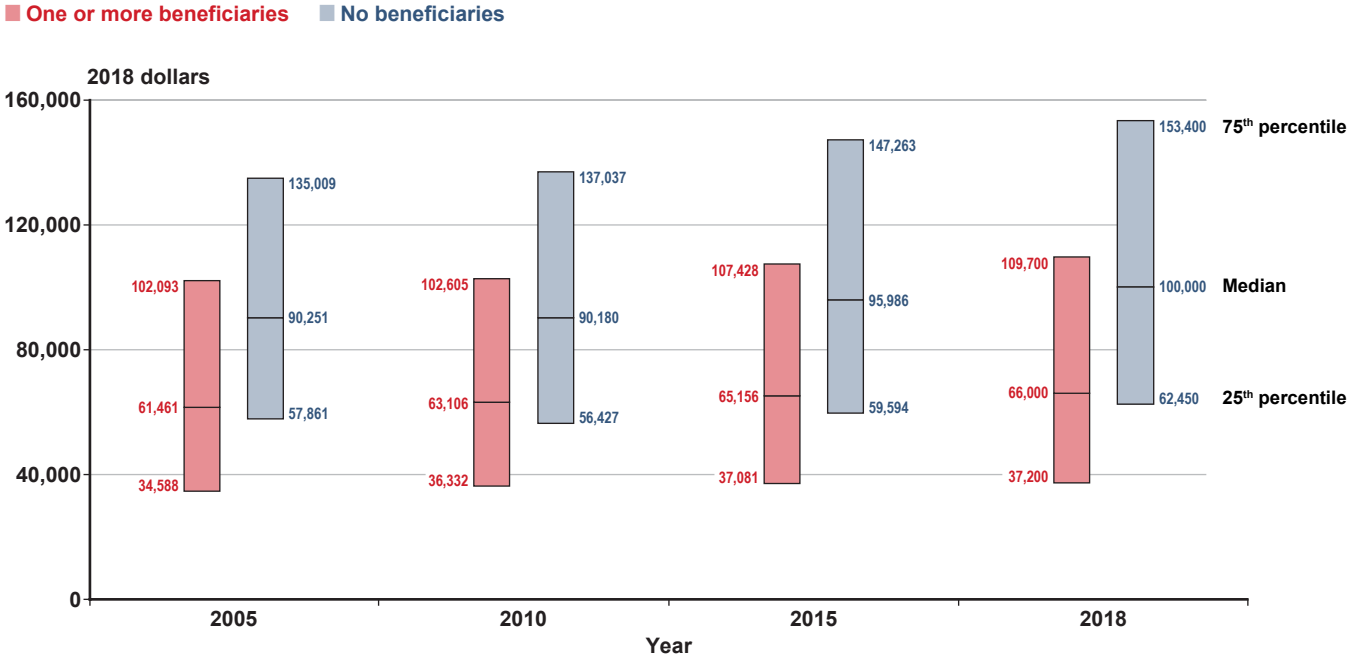
- In both 2005 and 2018, the median income of homeowner households was higher than that of renter households. Among homeowners, the median income of households with mortgages was higher than the median income of households without mortgages.
- In all three tenure categories and in both years, median income was higher in households with no Social Security beneficiaries than in households with one or more beneficiaries.
- From 2005 to 2018, the real median income of renter households with one or more beneficiaries rose by $2,670, from $21,730 to $24,400 (12.3 percent).
- The real median income of Social Security beneficiary households with mortgages rose by $4,539, from $61,461 to $66,000 (7.4 percent).
- The real median income of Social Security beneficiary homeowning households without mortgages rose by $6,983, from $39,217 to $46,200 (17.8 percent).

Chart 7.
Renter households: Annual household real income at the 25th, 50th (median), and 75th percentiles, by presence of OASDI beneficiaries, selected years 2005–2018



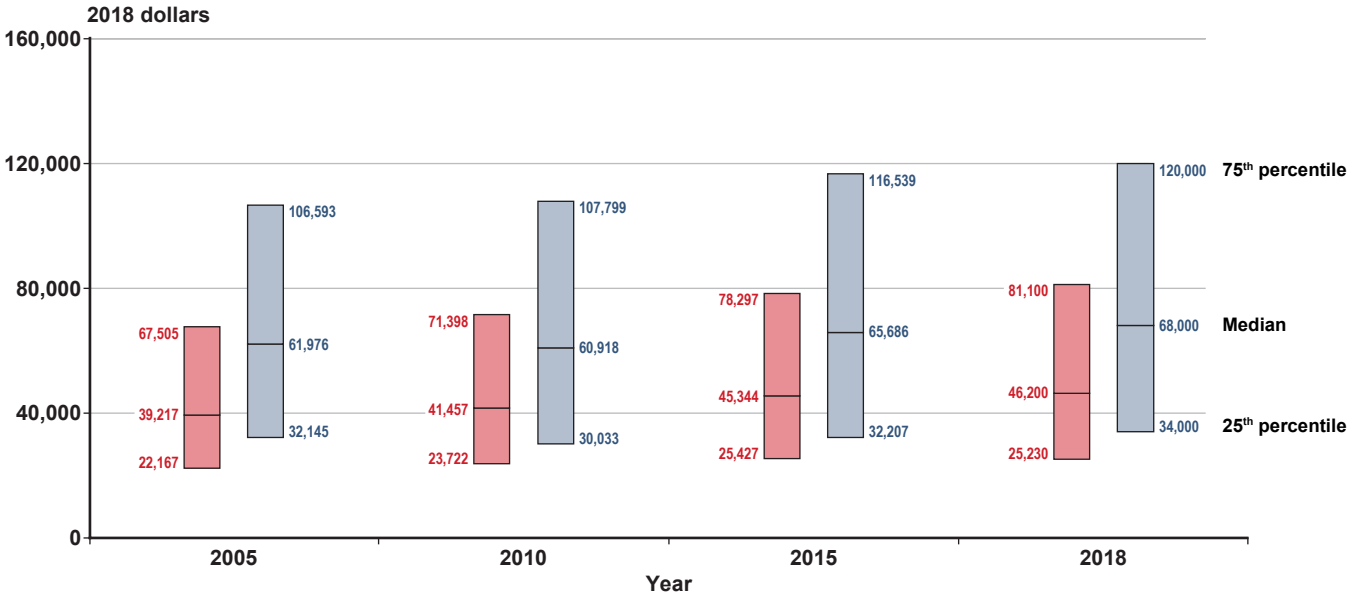
SOURCE: Author's calculations based on ACS data.

Chart 8.
Mortgage-holding homeowner households: Annual household real income at the 25th, 50th (median), and 75th percentiles, by presence of OASDI beneficiaries, selected years 2005–2018



SOURCE: Author's calculations based on ACS data.

Chart 9.
Nonmortgage-holding homeowner households: Annual household real income at the 25th, 50th (median), and 75th percentiles, by presence of OASDI beneficiaries, selected years 2005–2018



SOURCE: Author's calculations based on ACS data.

Housing Expenditures by Tenure and Receipt of Social Security Benefits, 2005–2018

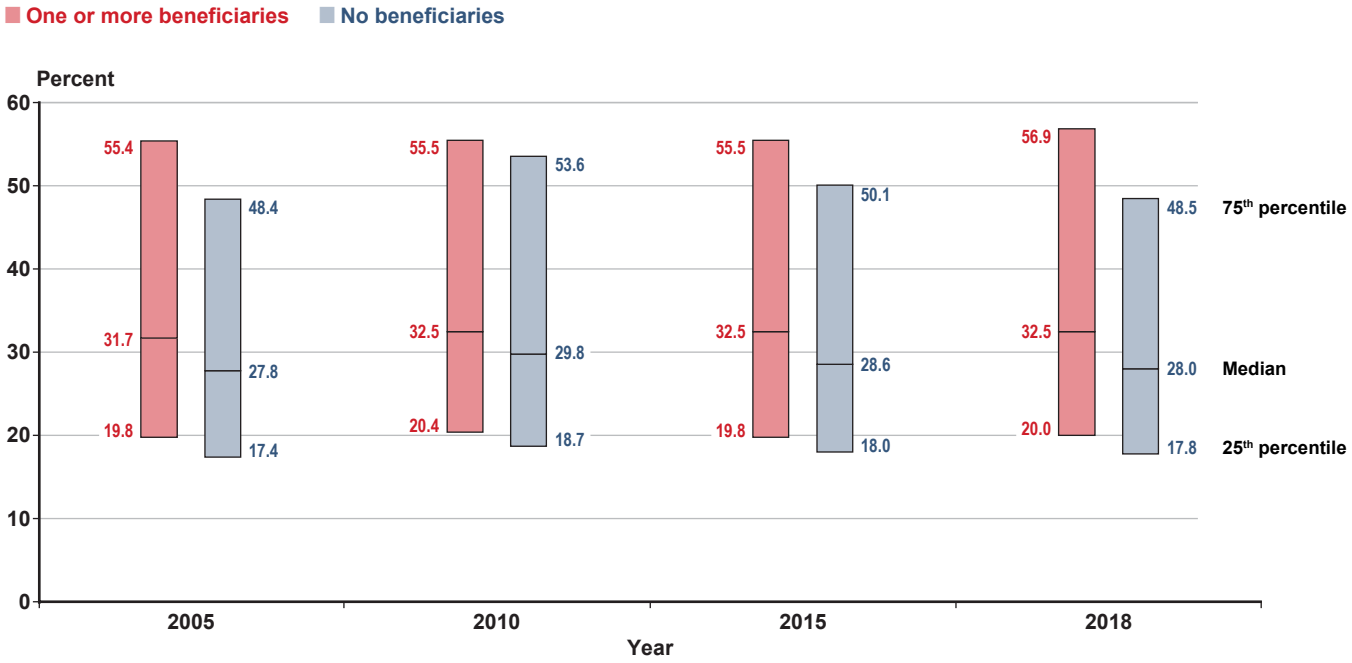
In both 2005 and 2018, renter households in which one or more people received Social Security benefits paid a larger percentage of their income on housing expenses than renter households with no beneficiaries (Chart 10). The median proportion of household income spent on housing remained relatively stable among beneficiary renter households, at 31.7 percent in 2005 and 32.5 percent in 2018. The median proportion of income spent on housing by nonbeneficiary renter households remained essentially the same, at 27.8 percent in 2005 and 28.0 percent in 2018.[9]

At the 25th percentile of the expenditure-ratio distribution, renter households with at least one Social Security beneficiary spent approximately 20 percent of household income on housing in both 2005 and 2018, and nonbeneficiary renter households spent 17.4 percent of income on housing in 2005 and 17.8 percent of income on housing in 2018. At the upper end of the expenditure-ratio distribution (the 75th percentile), housing expenses consumed about half—or more—of household income. For beneficiary renter households at the 75th percentile, housing expenses consumed 55.4 percent of income in 2005 and 56.9 percent of income in 2018. Nonbeneficiary renter households spent 48.4 percent of income on housing in 2005 and 48.5 percent of income on housing in 2018.

Like renter households, mortgage-holding households with one or more people receiving Social Security benefits paid a higher percentage of income on housing expenses than nonbeneficiary households did in both 2005 and 2018 (Chart 11). Unlike for renter households, however, the proportion of household income spent on housing by mortgage-holders declined during this period: Among beneficiary households, the median proportion declined from 27.3 percent in 2005 to 25.1 percent in 2018; among nonbeneficiary households, it declined from 23.1 percent in 2005 to 19.6 percent in 2018.[10]

Among mortgage-holding beneficiary households, one-fourth spent 17.7 percent or less of household income on housing in 2005. By 2018, the 25th percentile expenditure-to-income ratio had declined by 1.5 percentage points to 16.2 percent. Among nonbeneficiary households, the 25th percentile expenditure-to-income ratio declined from 16.2 percent in 2005 to 13.9 percent in 2018. One-fourth of Social Security beneficiary households with mortgages spent at least 44.6 percent of income on housing in 2005. By 2018, the 75th percentile of that ratio had declined by 3.4 percentage points to 41.2 percent of household income. Among nonbeneficiary households, the 75th percentile

Chart 10.
Renter households: Percentage of household income spent on housing at the 25th, 50th (median), and 75th percentiles, by presence of OASDI beneficiaries, selected years 2005–2018



SOURCE: Author's calculations based on ACS data.

expenditure-to income ratio declined from 33.9 percent in 2005 to 28.9 percent in 2018.

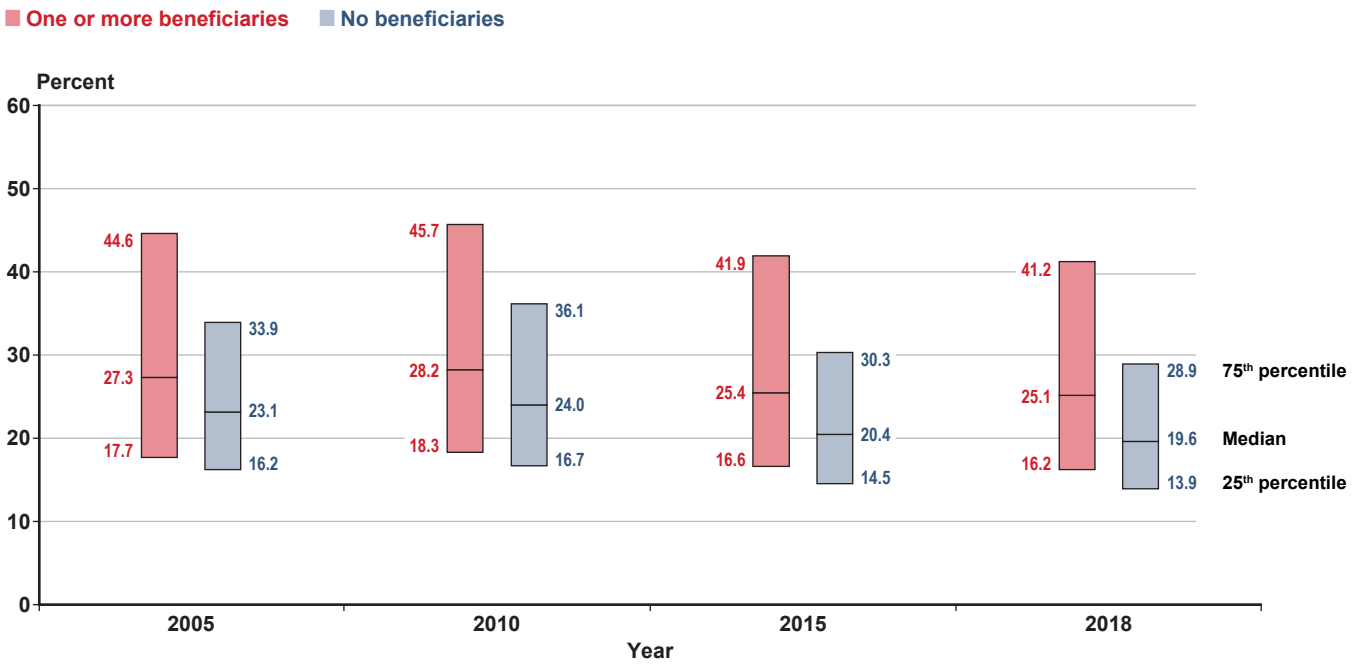
Homeowner households without mortgages spent a smaller proportion of income on housing than did either renters or homeowners with mortgages in both 2005 and 2018. As with mortgage-holding households, the proportion of income spent on housing by nonmortgage-holding homeowner households declined from 2005 to 2018, but the decline was proportionally smaller. The median proportion of income spent on housing expenses by nonmortgage-holding homeowner households with one or more Social Security beneficiaries declined from 13.9 percent in 2005 to 12.4 percent in 2018 (Chart 12). Among nonbeneficiary households, the median proportion was 9.4 percent in 2005 and 9.0 percent in 2018.[11]

Among nonmortgage-holding homeowner households with at least one Social Security beneficiary, one-fourth spent 8.3 percent or less of household income on housing in 2005. By 2018, the 25th percentile expenditure-to-income ratio had declined to 7.3 percent. Among nonbeneficiary households, the 25th percentile proportion was 5.6 percent in 2005 and 5.3 percent in 2018. Among Social Security beneficiary nonmortgage-holding homeowner households, one-fourth spent at least 24.1 percent of income on housing in 2005. By 2018, the 75th percentile expenditure-to-income ratio had declined to 22.0 percent. Among nonbeneficiary households, the 75th percentile expenditure-to-income ratio was 17.5 percent in 2005 and 17.4 percent in 2018.

In summary:

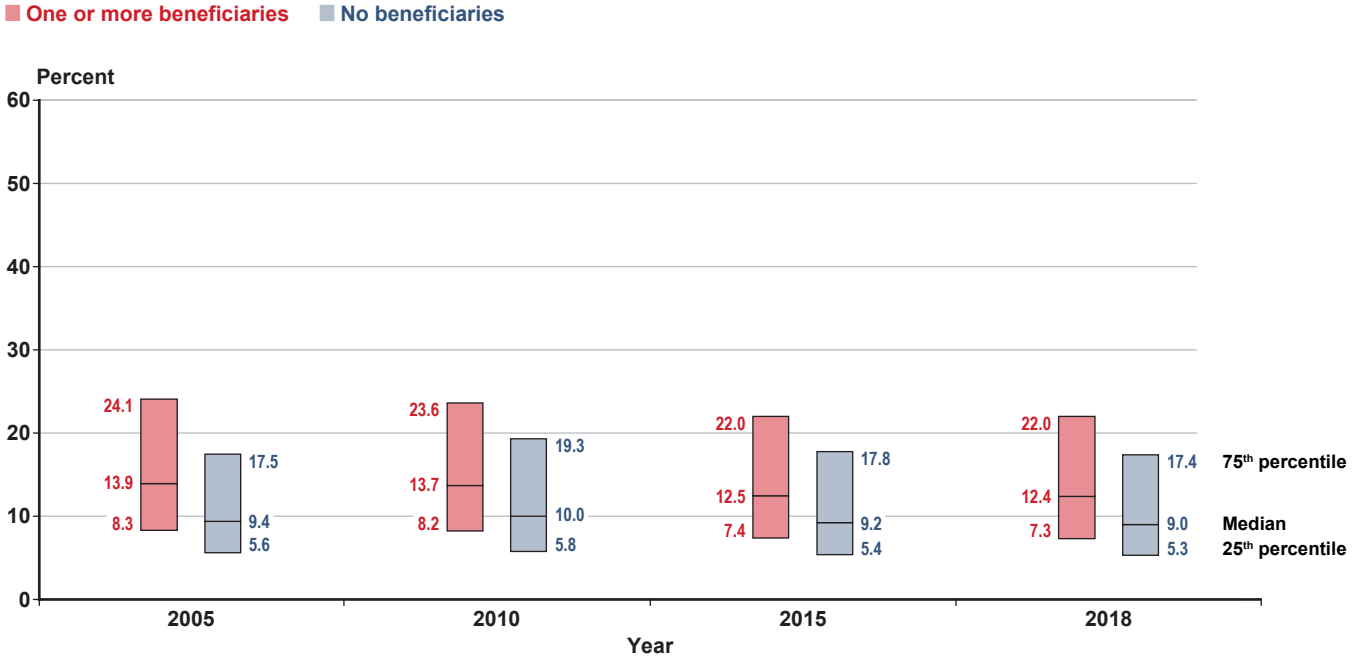
- In both 2005 and 2018, beneficiary households in all three tenure categories spent a greater proportion of income on housing expenses than did nonbeneficiary households.
- In both 2005 and 2018, renter households spent a larger proportion of household income on housing than did homeowner households. Homeowners with mortgages spent a larger proportion of income on housing than did homeowners without mortgages.
- The median housing expenditure-to-income ratio for renter households in which at least one person received Social Security benefits was 31.7 percent in 2005 and 32.5 percent in 2018.
- Among mortgage-holding homeowner households in which one or more people received Social Security benefits, the median proportion of income spent on housing declined from 27.3 percent in 2005 to 25.1 percent in 2018.
- Among homeowner households without mortgages in which one or more people received Social Security benefits, the median proportion of income spent

Chart 11.
Mortgage-holding homeowner households: Percentage of household income spent on housing at the 25th, 50th (median), and 75th percentiles, by presence of OASDI beneficiaries, selected years 2005–2018



SOURCE: Author's calculations based on ACS data.

Chart 12.
Nonmortgage-holding homeowner households: Percentage of household income spent on housing at the 25th, 50th (median), and 75th percentiles, by presence of OASDI beneficiaries, selected years 2005–2018



SOURCE: Author's calculations based on ACS data.

on housing declined from 13.9 percent in 2005 to 12.4 percent in 2018.

Conclusion

This article documents trends in housing tenure, household income, and the proportion of income spent on housing expenses in selected years from 2005 to 2018, as reported in the ACS. During that period, the number of households in which at least one person received income from Social Security increased from 30.1 million to 38.3 million (27.3 percent), and the proportion of U.S. households with one or more Social Security beneficiaries rose from 26.2 percent to 31.5 percent. In 2018, 24.1 percent of the 38.3 million households in which at least one person received Social Security benefits were renter households, 31.8 percent were homeowners with mortgages, and 44.1 percent were homeowners without mortgages.

In both 2005 and 2018, the median income of homeowner households was higher than that of renter households, and the median income of households with mortgages was higher than that of homeowner households without mortgages. From 2005 to 2018, the real median income of renter households in which at least one person received Social Security benefits increased from $21,730 to $24,400 (12.3 percent). The real median income of beneficiary households with mortgages increased from $61,461 to $66,000 (7.4 percent), and the real median income of nonmortgage-holding homeowner households with beneficiaries increased from $39,217 to $46,200 (17.8 percent).

Expenditures for housing consume a substantial proportion of household income, especially among renter households and mortgage-holding homeowner households. In renter households with one or more Social Security beneficiaries, the median share of income spent on housing was 31.7 percent in 2005 and 32.5 percent in 2018. One-fourth of renter beneficiary households spent 56.9 percent or more of income on housing in 2018. For mortgage-holding households with one or more Social Security beneficiaries, the median share of income spent on housing was 27.3 percent in 2005 and 25.1 percent in 2018. In 2018, one-fourth of mortgage-holding beneficiary households spent at least 41.2 percent of income on housing. The median proportion of income spent on housing by nonmortgage-holding homeowner households with one or more Social Security beneficiaries declined from 13.9 percent in 2005 to 12.4 percent in 2018; however, one-fourth of nonmortgage-holding beneficiary households spent at least 22.0 percent of income on housing in 2018.

Appendix A

Table A-1.
Renter households: Median percentage of household income spent on housing costs, by householder characteristics and presence of OASDI beneficiaries, selected years 2005–2018

Characteristic	2005	2010	2015	2018
All renter households	28.5	30.3	29.4	29.0
	Households with one or more beneficiaries			
All	31.7	32.5	32.5	32.5
By householder—				
Age				
18–61	33.2	34.2	33.2	32.3
62–69	29.6	30.5	31.4	31.8
70 or older	31.9	32.7	32.6	33.2
Marital status				
Married couple	26.0	26.5	26.2	26.0
Unmarried male	31.7	32.8	33.0	33.1
Unmarried female	34.7	35.7	35.8	36.2
Race/ethnicity				
Single race, non-Hispanic				
White	30.7	31.9	31.4	31.7
Black	34.8	35.2	35.5	35.5
American Indian/Alaska Native	30.5	32.0	27.8	28.2
Asian/Pacific Islander	29.5	30.8	30.7	30.1
Two or more races, non-Hispanic	32.8	34.5	34.4	32.9
Hispanic origin, any race(s)	34.3	33.0	34.0	33.7
	Households with no beneficiaries			
All	27.8	29.8	28.6	28.0
By householder—				
Age				
18–61	27.6	29.7	28.4	27.8
62–69	29.2	29.6	29.2	29.0
70 or older	40.0	42.0	48.3	52.1
Marital status				
Married couple	23.2	25.0	23.8	23.3
Unmarried male	25.8	28.0	27.0	26.7
Unmarried female	33.7	35.7	34.5	33.7
Race/ethnicity				
Single race, non-Hispanic				
White	25.2	27.2	25.7	25.3
Black	32.4	34.9	33.5	32.4
American Indian/Alaska Native	25.1	27.5	27.9	24.9
Asian/Pacific Islander	28.1	27.5	27.2	25.9
Two or more races, non-Hispanic	29.7	31.8	29.8	29.1
Hispanic origin, any race(s)	31.4	33.6	32.3	31.5

SOURCE: Author's calculations based on ACS data.

Table A-2.
Mortgage-holding homeowner households: Median percentage of household income spent on housing costs, by householder characteristics and presence of OASDI beneficiaries, selected years 2005–2018

Characteristic	2005	2010	2015	2018
All mortgage-holding homeowner households	23.7	24.7	21.4	20.6
	Households with one or more beneficiaries			
All	27.3	28.2	25.4	25.1
By householder—				
Age				
18–61	25.5	26.4	22.8	21.4
62–69	26.2	27.1	24.4	24.4
70 or older	31.0	31.6	29.0	28.3
Marital status				
Married couple	24.1	25.0	22.3	22.0
Unmarried male	32.2	33.3	30.7	30.1
Unmarried female	36.2	36.5	33.9	32.8
Race/ethnicity				
Single race, non-Hispanic				
White	26.3	27.3	24.7	24.5
Black	33.2	32.5	29.6	27.7
American Indian/Alaska Native	27.3	28.0	27.2	25.9
Asian/Pacific Islander	27.6	29.4	26.3	26.2
Two or more races, non-Hispanic	29.4	30.9	26.8	27.3
Hispanic origin, any race(s)	31.1	31.2	28.1	27.5
	Households with no beneficiaries			
All	23.1	24.0	20.4	19.6
By householder—				
Age				
18–61	23.1	24.0	20.3	19.5
62–69	23.0	23.7	21.3	20.8
70 or older	39.7	43.2	40.6	36.8
Marital status				
Married couple	21.4	22.1	18.9	18.1
Unmarried male	26.1	27.4	23.2	22.3
Unmarried female	29.4	30.4	26.4	25.3
Race/ethnicity				
Single race, non-Hispanic				
White	22.0	22.8	19.5	18.6
Black	26.4	28.1	23.5	22.2
American Indian/Alaska Native	22.4	23.3	19.9	20.0
Asian/Pacific Islander	27.4	28.1	23.3	22.9
Two or more races, non-Hispanic	26.1	27.5	21.6	21.3
Hispanic origin, any race(s)	29.6	30.0	24.6	23.4

SOURCE: Author's calculations based on ACS data.

Table A-3.
Nonmortgage-holding homeowner households: Median percentage of household income spent on housing costs, by householder characteristics and presence of OASDI beneficiaries, selected years 2005–2018

Characteristic	2005	2010	2015	2018
All nonmortgage-holding homeowner households	12.0	12.2	11.1	10.9
	Households with one or more beneficiaries			
All	13.9	13.7	12.5	12.4
By householder—				
Age				
18–61	11.6	12.2	11.2	10.8
62–69	11.7	11.6	10.8	11.1
70 or older	15.2	14.9	13.6	13.3
Marital status				
Married couple	11.0	10.9	10.0	10.0
Unmarried male	15.0	15.2	14.2	14.2
Unmarried female	19.8	19.1	17.6	17.4
Race/ethnicity				
Single race, non-Hispanic				
White	13.7	13.5	12.4	12.3
Black	17.5	16.5	14.5	13.9
American Indian/Alaska Native	12.4	11.6	10.8	10.1
Asian/Pacific Islander	11.6	11.9	11.6	11.8
Two or more races, non-Hispanic	14.4	14.2	12.6	12.8
Hispanic origin, any race(s)	15.0	14.2	12.9	13.1
	Households with no beneficiaries			
All	9.4	10.0	9.2	9.0
By householder—				
Age				
18–61	9.1	9.7	8.9	8.7
62–69	9.8	9.8	9.0	9.2
70 or older	21.0	21.9	21.3	20.2
Marital status				
Married couple	7.6	7.9	7.4	7.3
Unmarried male	11.3	12.5	11.5	11.3
Unmarried female	15.1	15.7	14.4	14.2
Race/ethnicity				
Single race, non-Hispanic				
White	8.9	9.5	8.8	8.6
Black	12.2	13.2	11.5	11.0
American Indian/Alaska Native	9.0	9.9	8.8	8.5
Asian/Pacific Islander	8.8	9.9	9.3	9.1
Two or more races, non-Hispanic	11.1	12.3	10.0	10.2
Hispanic origin, any race(s)	11.7	12.1	10.6	10.4

SOURCE: Author's calculations based on ACS data.

Notes

Acknowledgments: Thanks to Paul Davies, John Murphy, and Brad Trenkamp for helpful comments and suggestions.

[1] The Census Bureau defines the householder as the person (or one of the people) in whose name the housing unit is owned or rented.

[2] Out-of-pocket expenditures for health care consist of payments for (1) health insurance premiums and copayments, (2) medical services, (3) prescription and nonprescription drugs, and (4) medical supplies and equipment.

[3] The Census Bureau conducts the CES for the Bureau of Labor Statistics (BLS). The CES consists of a diary survey and an interview survey, each with an independent sample. Diary survey respondents record all household expenditures for 2 consecutive weeks. Interview survey respondents are queried four times over the course of 12 months. Approximately 6,000 households complete the diary survey and about 6,000 households respond to the interview survey each quarter. BLS publishes results that integrate data from both surveys.

[4] For information on the ACS Public Use Microdata Sample, see https://www.census.gov/programs-surveys/acs/microdata.html.

[5] Social Security benefits are a significant source of income in many households. Although the ACS asks whether the respondent received income from Social Security in the previous 12 months, it does not ask the respondent to specify the type of benefit (retired worker, disabled worker, dependent, or survivor).

[6] Percentages reported in the narrative are calculated using the more detailed values shown in the charts and tables.

[7] The ACS asks separate questions about receipt of OASDI benefits and Supplemental Security Income (SSI) payments. Throughout this article, "Social Security beneficiaries" refers specifically to persons who received OASDI benefits, including those who received both OASDI and SSI. In other words, this analysis omits recipients of SSI payments (unless they also received OASDI benefits). In December 2017, 61.5 million people received OASDI benefits, including 2.7 million who received both OASDI and SSI. Another 5.5 million people received SSI alone (SSA 2018b). Some household survey respondents who received only SSI payments incorrectly reported that they received OASDI benefits. However, because the number of OASDI beneficiaries is much larger than the number of SSI recipients, any such reporting errors would have relatively little effect on the results presented here.

[8] Economists treat repayment of mortgage principal as saving because it reduces household debt. Unlike the Consumer Expenditure Survey, the ACS does not collect data on expenditures for household maintenance or repairs.

[9] Appendix Table A-1 shows median percentage of household income spent on housing for renters by presence of OASDI beneficiaries and householder demographic characteristics.

[10] Appendix Table A-2 shows median percentage of household income spent on housing for mortgage-holding homeowners by presence of OASDI beneficiaries and householder demographic characteristics.

[11] Appendix Table A-3 shows median percentage of household income spent on housing for nonmortgage-holding homeowners by presence of OASDI beneficiaries and householder demographic characteristics.

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Changing Longevity, Social Security Retirement Benefits, and Potential Adjustments

by Gayle L. Reznik, Kenneth A. Couch, Christopher R. Tamborini, and Howard M. Iams*

Differential changes in life expectancies across lifetime earnings quartiles threaten to erode the intended progressivity of Social Security Old-Age and Survivors Insurance benefits. We use the Modeling Income in the Near Term microsimulation model to examine whether adjusting benefits can offset the effects of differential changes in projected life expectancy. We study two potential adjustments that allow all beneficiaries to realize lifetime benefit gains associated with the average increase in life expectancy while offsetting the disproportionate effects of the longevity differentials. Both adjustments would raise benefits for beneficiaries with lower lifetime earnings and reduce them for beneficiaries with higher lifetime earnings. The adjustments would reduce projected poverty rates among beneficiaries in the lower lifetime earnings quartiles with no increase in the official poverty rate for those in higher quartiles. The adjustments would also narrow the gap in lifetime benefits between individuals in the highest and lowest lifetime earnings quartiles.

Introduction

U.S. life expectancy is considerably longer than it was when the Social Security system was designed. Goldman and Orszag (2014) estimated that average life expectancy at age 65 for Americans born in 1960 will be about 3 years longer than that of the 1928 birth cohort. Goldman and Orszag also found that the greatest increases accrue to those in the top quartile of the lifetime earnings distribution; for example, for men, projected age-65 life expectancy increases by 4.0 years across those three decades while the corresponding increase for those in the bottom earnings quartile is 1.6 years. Similar patterns appear for women. In general, expected longevity has increased differentially for groups with varying levels of education, lifetime earnings, and wealth (Waldron 2007, 2013).

Americans collectively have benefited from the effect of increased average life expectancy on lifetime retirement benefits. Nonetheless, the differential increases in life expectancy and benefits aid some groups more than others, and that divergence alters the progressivity of the Social Security system because it results in a disproportionate increase in lifetime benefits for higher-earning individuals. Goldman and Orszag (2014) explored how the varying changes in life expectancy relate to differential lifetime Social Security benefits and found that significant reductions in program progressivity would arise if current mortality trends persist. In this article, we consider the distributional effects of potential adjustments to the Social Security benefit calculation that would account for differential longevity and estimate the effects of those adjustments relative to benefits scheduled under current law.

Such adjustments would aim to allow different groups to gain equally from societal advances in longevity. The proportional gain in benefits for

Selected Abbreviations

MINT	Modeling Income in the Near Term
OASI	Old-Age and Survivors Insurance
PIA	primary insurance amount

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individuals in groups that have experienced smaller gains in longevity would be increased, while those in groups with disproportionately greater increases in longevity would have their benefits reduced to offset those larger increases. We examine two methods of adjusting the benefit calculation, both of which account for differential longevity. The primary effect of both adjustments is to compress the distribution of benefit payments.

We use a microsimulation model to assess the effect of two longevity adjustments on Old-Age and Survivors Insurance (OASI) retirement benefits relative to benefit levels established in current law. Prior research has not considered effects relative to scheduled benefits. We find that the adjustments' modest increases in initial benefits for those with below-average life expectancies result in sizable decreases in poverty. The adjustments reduce benefits for groups with higher lifetime earnings and longer life expectancies but the simulations indicate no increase in official poverty associated with those reductions.

The article proceeds as follows. In the next section, we review the relevant literature. Then, a methodology section describes the Modeling Income in the Near Term (MINT) microsimulation model, the outcomes measured, and the adjustments evaluated. A section summarizing the results follows. The final section concludes and discusses the implications of the results.

Literature Review

Americans' life expectancy has been increasing for a number of reasons, including improvements in living standards and medical care. Overall life expectancy at age 65 increased from 17.2 years in 1990 (that is, for the 1925 birth cohort) to 17.9 years in 2000, 19.1 years in 2010, and 19.5 years in 2018 (for the 1953 birth cohort). Both men and women experienced this trend. Men's life expectancy at age 65 increased from 15.1 years in 1990 to 16.3 years in 2000, 17.7 years in 2010, and 18.1 years in 2018. Women experienced similar increases, respectively from 18.9 years to 19.2, 20.3, and 20.7 years (National Center for Health Statistics 1994, Table 6-3; Arias 2002, Table 11; Arias 2014, Table A; Xu and others 2020, Figure 1).

Longer life expectancy has implications for the Social Security program. OASI benefits are received from claiming age until death, and as longevity increases, lifetime benefits paid increase as well. Increasing lifetime benefits may pose long-term financing problems for the program (National Academies of Sciences, Engineering, and Medicine 2015; Congressional Budget Office 2019; Board of Trustees 2020). In response, researchers have proposed a number of Social Security reform plans, such as raising the ages of eligibility for early and full retirement or indexing benefits for longevity (Social Security Advisory Board 2010; Olsen 2012; Congressional Budget Office 2015; Zissimopoulos and others 2017). More complex plans incorporate multiple provisions, such as altering early and full retirement ages based on expected longevity along with protections for low earners.[1] Other studies note that longer life expectancies alter the distribution of benefits across subgroups of beneficiaries and thereby may dilute the program's general progressivity (Poterba 2014; National Academies of Sciences, Engineering, and Medicine 2015; Government Accountability Office 2016).

Sandell and Iams (1997) found that individuals who had shorter lives also tended to earn less over their lifetimes. On average, the earnings records of individuals with shorter life expectancies generate lower benefit amounts, which the beneficiary receives for a shorter period. Benefits received by the widows of claimants who had low lifetime earnings also tend to be low because they are often based on the deceased worker's earnings history. This interrelationship is one of the drivers of high poverty rates among older widows.

Studies have also documented differing gains in life expectancy by socioeconomic status. Waldron (2007) used administrative tax records to show a widening gap in life expectancy at different points in the earnings distribution for men of successive birth cohorts in the first half of the 20th century. Other research has shown that individuals with higher earnings and education have experienced increasingly larger gains in life expectancy than those of workers with lower earnings and education (Montez and others 2011; Masters, Hummer, and Powers 2012; Olshansky and others 2012; Pijoan-Mas and Ríos-Rull 2014; Bound and others 2015; Bosworth, Burtless, and Zhang 2016).

This growing differential in life expectancy by socioeconomic status has ramifications both for the Social Security program and for an individual's lifetime benefits (National Academies of Sciences, Engineering, and Medicine 2015). One effect of the changing distribution of lifetime benefits is to reduce the program's progressivity (Goda, Shoven, and Slavov 2011; Burtless 2019). Goldman and Orszag (2014), using the Future Elderly Model, analyzed the effects

of differential longevity on the progressivity of benefits and found an increasing gap in lifetime benefits across earnings quartiles. Bosworth, Burtless, and Zhang (2016) estimated mortality patterns from data in the Health and Retirement Study and the Survey of Income and Program Participation, finding evidence suggestive of widening gaps in lifetime benefits across socioeconomic status.

Individuals with low lifetime earnings also tend to claim retirement benefits earlier than do individuals with higher lifetime earnings. Benefits claimed prior to full retirement age (FRA) are adjusted by an actuarial reduction factor for each month by which the claiming age precedes FRA. The actuarial reduction factor is intended to allow claiming at all possible ages to result in lifetime benefits that are actuarially constant. Similarly, benefits claimed after reaching FRA are increased by a delayed retirement credit for each month claiming is deferred (until age 70) to compensate for the shorter duration of benefit receipt. Claiming-age choices affect initial monthly benefits (and would tend to widen differences between initial amounts across the distribution of lifetime earnings) but are not intended to affect lifetime benefits.

Along with potential benefit-calculation adjustments, prior research has considered alternative approaches to offsetting the effect of differential longevity. Couch and others (2017) used microsimulations to explore three potential approaches to adjusting benefit levels and eligibility criteria in ways that could address high poverty among older women, who tend to have had low lifetime earnings and to have been married to men who also had low earnings and relatively short life expectancies. The longevity adjustments analyzed here are similar to one of the three approaches examined in that study. Reznik and others (2019) likewise used microsimulations to consider the effect of combining longevity-adjusted benefit calculations with other policy measures such as raising the full retirement age. Both of those analyses showed that benefit adjustments based on differential increases in life expectancy across the lifetime earnings distribution reduce poverty among the groups with the lowest average lifetime earnings and education.

Methods

This section consists of subsections addressing the microsimulation model we use, the outcomes we measure, and the particular adjustments we evaluate in this analysis.

Microsimulation with MINT

This analysis is based on version 8 of the MINT microsimulation model (MINT8). MINT was developed with the goal of modeling the effect of the statutes governing Social Security Administration (SSA) programs and of potential changes to current laws and policies (Smith and Favreault 2019). The model enables researchers to evaluate outcomes such as benefit payments, household income, and poverty across a range of demographic variables including age, race, sex, marital status, and household composition. Because the Social Security system and potential changes to it affect future beneficiaries, the model is designed to project future outcomes.

MINT8 is based primarily on data from the 2004 and 2008 panels of the Census Bureau's Survey of Income and Program Participation linked to administrative records from SSA spanning the period 1951–2015. To calculate projected benefits, the model accounts for the detailed Social Security rules used in determining eligibility and benefit levels. Accordingly, the model simulates prospective aspects of employment and retirement experience, including an individual's years of work, earnings, periods of unemployment, contributions to pension plans, and dates of retirement and benefit claiming. The model also simulates life events such as marriage, divorce, remarriage, and having children, as well as family structure. In addition, the model projects the incidence of disabilities and death. Although the model also simulates many other individual circumstances, these are the core variables necessary to calculate retirement benefits.

The economic and demographic projections that underlie the MINT8 simulations used in this article are calibrated to the intermediate benchmarks of the 2019 annual report of the trustees of the Social Security trust funds (Board of Trustees 2019).[2] Panis and Lillard (1999), Smith and others (2010), and Smith and Favreault (2019) provide documentation on the development of many of the model's underlying simulation components, along with information on their accuracy.

We use MINT8 to consider the effect of two potential methods of adjusting the calculation of OASI benefits for individuals in four 10-year birth cohorts. The first method accounts for the average percentage change in life expectancy at age 65 for each 10-year birth cohort relative to the 1928 birth cohort and calculates the effect of benefit adjustments for individuals in each quartile of the lifetime earnings distribution. The second method accounts for average *years* of life

expectancy at age 65 within a given cohort, rather than the first method's average *percentage* change in life expectancy from that of the 1928 cohort. We describe the two adjustments in more detail below. Our purpose is to highlight the effects of possible policy changes rather than to advocate any specific policy.

We run MINT8 microsimulations for OASI beneficiaries born in the period 1940–1979. We restrict the analysis to beneficiaries aged 60 or older who survive at least to age 65. We use age 60 as the lower bound because it is the earliest age of eligibility for OASI widow(er) benefits.[3] We exclude the ever-disabled population because their claiming behavior and benefit structure differ from those of individuals claiming retirement benefits, and examining potential movement of beneficiaries across programs is beyond the scope of this analysis. After applying these restrictions, we analyze a weighted population of more than 117 million beneficiaries.

Outcomes

We examine four measures of the effect of the potential benefit-formula adjustments. First, we measure the effect on the initial benefit amount. Second, we calculate the effect on lifetime benefits. Third and fourth, we consider the effects on poverty rates under the Census Bureau's official and supplemental poverty measures.[4]

We express the initial benefit as the first monthly OASI benefit received at age 60 or older, so we exclude benefits received before age 60, such as those received as a child or as a widow(er) caring for the child of a deceased or disabled worker. Similarly, lifetime benefits reflect the cumulative amount received starting with benefits at age 60 and ending at death. The benefit amount includes retired-worker benefits, spouse benefits, and widow(er) benefits as applicable.[5]

Poverty rates are measured at age 70, when almost all beneficiaries have claimed benefits (because delayed retirement credits cease accumulating at that age). The official poverty measure requires the measurement of household income, which includes household earnings, asset income (comprising dividend, interest, and rental income reported on income tax returns), defined benefit pensions, means-tested and nonmeans-tested income, Social Security benefits, Supplemental Security Income payments, and nonspousal coresidents' income. The supplemental poverty measure accounts for additional income sources, such as government noncash benefits; and expenses, such as housing and out-of-pocket medical expenditures (Haveman and others 2015; Fox 2019).

We evaluate these outcomes by lifetime earnings quartiles based on average indexed monthly earnings (AIME) at age 65. AIME reflects the average of the individual's highest 35 years of wage-indexed earnings and is used in the Social Security benefit calculation.[6] We calculate the quartiles separately by sex and by cohort; thus, the quartiles are both sex- and cohort-specific.[7] We index the AIMEs to average wages in 2019, so AIMEs at different ages are comparable. This ensures that each quartile constitutes exactly 25 percent of the population.

Adjustments Evaluated

As noted earlier, this analysis considers responses to widening longevity differentials in the form of two potential adjustments to the benefit formula. Each longevity adjustment is based on the expected age-specific mortality for individuals within the 10-year cohorts examined.[8] The first adjustment allows all individuals to experience the same proportional gain in life expectancy as the average person in their cohort, relative to individuals born in 1928. The second adjustment equalizes average life expectancy within each cohort. Each of these adjustments is based on the projected life expectancy within a cohort by lifetime earnings quartile and by sex. Adjustment factors are calculated separately for men and women and for each of the four 10-year birth cohorts: 1940s (1940–1949), 1950s (1950–1959), 1960s (1960–1969), and 1970s (1970–1979).

Table 1 summarizes the calculations for the first longevity adjustment. Average life expectancy at age 65 for all men born in 1928 is 15.1 years and from the lowest to highest earnings quartiles, life expectancy at age 65 ranges from 13.6 to 16.7 years (Goldman and Orszag 2014, Table 1). For men born in later cohorts, taking the 1940s as an example, life expectancy at age 65 ranges from 17.7 to 21.4 years across the earnings quartiles, and average life expectancy at age 65 is 19.4 years. Thus, men in the highest quartile would have a disproportionate gain in their lifetime benefits because their increase in longevity, relative to the same quartile in the 1928 cohort (4.7 years), exceeds that of men in the lowest quartile (4.1 years).

Life expectancy for a man in the lowest quartile of lifetime earnings in the 1940s cohort would have to exceed the life expectancy of a man in the same quartile of the 1928 cohort by 43 percent to match the 1940s cohort average life expectancy ($13.6 \times 1.43 = 19.4$). Instead, the life expectancy of a man in that quartile actually increased by 30 percent.

Table 1.
Calculation of longevity adjustment 1, by sex, lifetime earnings quartile, and 10-year birth cohort

	Men					Women				
		Lifetime earnings quartile					Lifetime earnings quartile			
Calculation	Average	Lowest	Second	Third	Highest	Average	Lowest	Second	Third	Highest
1928 cohort: Age-65 life expectancy (years)	15.1	13.6	14.3	15.8	16.7	19.2	18.1	19.0	19.6	19.9
1940s birth cohort										
Age-65 life expectancy (years)	19.4	17.7	18.8	19.8	21.4	22.0	20.4	21.3	22.3	24.1
Percentage increase from 1928 cohort to—										
This cohort's average	. . .	43	36	23	16	. . .	22	16	12	11
This cohort and quartile	. . .	30	31	25	28	. . .	12	12	14	21
Percentage-point difference between increases	. . .	13	4	-3	-12	. . .	9	4	-1	-11
Adjustment factor	. . .	1.13	1.04	0.97	0.88	. . .	1.09	1.04	0.99	0.89
1950s birth cohort										
Age-65 life expectancy (years)	20.2	18.7	20.2	20.1	21.6	23.3	21.2	22.6	24.1	25.4
Percentage increase from 1928 cohort to—										
This cohort's average	. . .	48	41	28	21	. . .	29	23	19	17
This cohort and quartile	. . .	37	41	27	29	. . .	17	19	23	28
Percentage-point difference between increases	. . .	11	0	0	-9	. . .	12	4	-4	-10
Adjustment factor	. . .	1.11	1.00	1.00	0.91	. . .	1.12	1.04	0.96	0.90
1960s birth cohort										
Age-65 life expectancy (years)	20.7	18.8	20.4	21.0	22.7	23.1	20.0	23.1	23.8	25.5
Percentage increase from 1928 cohort to—										
This cohort's average	. . .	52	45	31	24	. . .	28	22	18	16
This cohort and quartile	. . .	38	43	33	36	. . .	11	21	22	28
Percentage-point difference between increases	. . .	14	2	-2	-12	. . .	17	0	-4	-12
Adjustment factor	. . .	1.14	1.02	0.98	0.88	. . .	1.17	1.00	0.96	0.88
1970s birth cohort										
Age-65 life expectancy (years)	21.0	18.4	20.8	22.3	22.5	23.1	19.9	22.5	24.1	26.0
Percentage increase from 1928 cohort to—										
This cohort's average	. . .	54	47	33	26	. . .	28	22	18	16
This cohort and quartile	. . .	35	46	41	35	. . .	10	19	23	30
Percentage-point difference between increases	. . .	19	1	-8	-9	. . .	18	3	-5	-14
Adjustment factor	. . .	1.19	1.01	0.92	0.91	. . .	1.18	1.03	0.95	0.86

SOURCES: Goldman and Orszag (2014, Table 1) and authors' calculations using MINT8.

NOTES: Percentage-point difference values do not necessarily equal the differences between the rounded percentages shown.

. . . = not applicable.

This differential suggests that raising his currently scheduled benefits by 13 percent would enable him to experience the same proportional increase in lifetime benefits as others in his cohort.

Conversely, life expectancy for a man in the 1940s cohort's top earnings quartile would have to exceed that of a man in the same quartile of the 1928 cohort by 16 percent to match the 1940s cohort average (16.7 × 1.16 = 19.4). In fact, his quartile's life expectancy increased 28 percent over the average life expectancy for a man in the top quartile of the 1928 cohort. This differential suggests that his currently scheduled benefits would have to be reduced by 12 percent to offset the different longevity changes by quartile and thereby equal those of the 1940s cohort average.

Table 1 shows the conversion of the percentage-point differences to the adjustment factors. To recalculate benefits for men and women in each cohort and quartile, we multiply their primary insurance amounts (PIAs) by the appropriate adjustment factor. The PIA itself is calculated using a progressive formula based on the individual's AIME. Adjusting the PIA in this manner affects the calculation of benefits for the primary beneficiary, as well as for all auxiliary benefits associated with the beneficiary's earnings record, such as spouse and widow(er) benefits.[9]

Table 2 summarizes the calculation of the second set of adjustment factors, which would affect the PIA in proportion to the differences in the life expectancies across quartiles of lifetime earnings. The calculation of this adjustment factor is much simpler than the first, consisting only of the observed average life expectancy for the entire cohort divided by the life expectancy of the individual's lifetime earnings quartile. For example, for a man in the lowest earnings quartile in the 1940s birth cohort, we divide 19.4 by 17.7; for one in the highest quartile, we divide 19.4 by 21.4.

For men born in the 1940s, the first adjustment would increase the PIA of those in the lowest quartile by 13 percent and lower the PIA of those in the highest quartile by 12 percent (Table 1). By contrast, with the second adjustment, men in the lowest quartile of the 1940s birth cohort would have a 10 percent increase in their PIA and those in the highest quartile would have a 9 percent decrease (Table 2). Conceptually, the second method adjusts benefits only for expected future differences in longevity whereas the first method also incorporates an adjustment for past changes. Thus, the second method results in a smaller departure from scheduled benefits.

Under both adjustments, the PIA would increase for those with lower lifetime earnings and decrease for those with higher lifetime earnings. However, under the second approach, the adjustments would be somewhat smaller. We also observe that the adjustment for those with lower lifetime earnings is generally greater for members of more recent cohorts than for those in the earlier cohorts.

In presenting these potential adjustments, we acknowledge that they constitute only two of many alternative conceptual approaches to adjusting PIAs to offset differential longevity. We do not argue that either adjustment is truly correct. Rather, we demonstrate that adjusting for differential longevity with such methods would generally increase the PIA and retirement benefits for those with relatively low lifetime earnings and decrease those of individuals with higher lifetime earnings. We anticipate that, by either method, this approach would reduce the cross-quartile gap in lifetime benefits attributable to longevity gains and would reduce poverty by compressing the distribution of benefits.

Results

We estimate the effects of these two potential adjustments on initial and lifetime benefits (in 2019 dollars) and on poverty rates under the official and supplemental measures.

Table 3 shows results for currently scheduled benefits without any adjustments. Overall, the median expected initial benefit is $1,358. The initial monthly benefit for the 1940s birth cohort ($1,259) is lower than that for the 1970s cohort ($1,465). We see a more dramatic differential in lifetime benefits across cohorts. Although the median lifetime benefits overall are $465,697, they are $409,373 for the 1940s cohort and $529,688 for the 1970s cohort. Regardless of cohort, median initial benefits are consistently higher for men than for women, which one would expect given men's higher lifetime earnings; however, the gap declines across cohorts, from an estimated $637 for the 1940s cohort to a far smaller $326 for the 1970s cohort. Under the official measure of poverty at age 70, the rate increases with each successive cohort for men and for beneficiaries overall; the rate increases for both men and women under the supplemental measure.

Table 4 shows the projected effect of the first longevity adjustment relative to the benefits scheduled under current law (shown in Table 3). The adjustment would result in virtually no net change in overall

Table 2.
Calculation of longevity adjustment 2, by sex, lifetime earnings quartile, and 10-year birth cohort

Calculation	Men					Women				
		Lifetime earnings quartile					Lifetime earnings quartile			
	Average	Lowest	Second	Third	Highest	Average	Lowest	Second	Third	Highest
					1940s birth cohort					
Age-65 life expectancy (years)	19.4	17.7	18.8	19.8	21.4	22.0	20.4	21.3	22.3	24.1
Adjustment factor	. . .	1.10	1.03	0.98	0.91	. . .	1.08	1.03	0.99	0.91
					1950s birth cohort					
Age-65 life expectancy (years)	20.2	18.7	20.2	20.1	21.6	23.3	21.2	22.6	24.1	25.4
Adjustment factor	. . .	1.08	1.00	1.00	0.93	. . .	1.10	1.03	0.97	0.92
					1960s birth cohort					
Age-65 life expectancy (years)	20.7	18.8	20.4	21.0	22.7	23.1	20.0	23.1	23.8	25.5
Adjustment factor	. . .	1.10	1.02	0.99	0.91	. . .	1.15	1.00	0.97	0.91
					1970s birth cohort					
Age-65 life expectancy (years)	21.0	18.4	20.8	22.3	22.5	23.1	19.9	22.5	24.1	26.0
Adjustment factor	. . .	1.14	1.01	0.94	0.93	. . .	1.16	1.03	0.96	0.89

SOURCES: Authors' calculations using MINT8.

NOTES: Adjustment factor is the cohort-average age-65 life expectancy divided by the quartile age-65 life expectancy.

. . . = not applicable.

Table 3.
Projected Social Security benefits and poverty under current law, by 10-year birth cohort, sex, and lifetime earnings quartile

Sex and lifetime earnings quartile	Sample size	Weighted population (in thousands)	Median benefit (2019 dollars)		Age-70 poverty rate (%)	
			First monthly benefit	Lifetime benefits	Official measure	Supplemental measure
			Total			
All	54,217	117,576	1,358	465,697	4.0	12.2
Men	24,650	56,858	1,606	474,391	3.7	11.4
Women	29,567	60,718	1,172	459,406	4.3	12.9
Lowest	14,028	29,396	716	245,018	12.8	26.9
Second	13,465	29,373	1,111	394,971	3.0	16.9
Third	13,462	29,419	1,650	562,323	0.0	4.3
Highest	13,262	29,387	2,326	761,613	0.0	0.6
			1940s birth cohort			
All	12,362	23,234	1,259	409,373	3.8	6.3
Men	5,632	11,079	1,642	424,537	3.0	5.5
Women	6,730	12,155	1,005	395,261	4.5	7.1
Lowest	3,212	5,809	652	226,454	11.8	14.9
Second	3,088	5,806	978	348,112	3.3	7.8
Third	3,085	5,811	1,537	485,303	0.1	2.3
Highest	2,977	5,808	2,073	623,308	0.0	0.3
			1950s birth cohort			
All	14,687	30,511	1,334	453,964	3.9	9.4
Men	6,588	14,468	1,581	453,133	3.6	9.1
Women	8,099	16,044	1,157	454,653	4.2	9.8
Lowest	3,709	7,628	703	247,802	11.7	21.2
Second	3,693	7,621	1,103	393,785	3.8	13.0
Third	3,668	7,637	1,606	534,481	0.0	3.2
Highest	3,617	7,625	2,237	699,797	0.0	0.4
			1960s birth cohort			
All	14,330	32,625	1,359	478,318	4.0	13.3
Men	6,641	15,867	1,554	482,172	3.9	12.1
Women	7,689	16,758	1,198	473,465	4.1	14.4
Lowest	3,629	8,155	733	254,953	13.1	29.9
Second	3,545	8,157	1,134	409,515	2.8	18.0
Third	3,561	8,158	1,679	577,824	0.1	4.6
Highest	3,595	8,156	2,345	805,608	0.0	0.7
			1970s birth cohort			
All	12,838	31,205	1,465	529,688	4.2	18.0
Men	5,789	15,444	1,639	537,268	4.0	17.1
Women	7,049	15,761	1,313	521,758	4.4	18.9
Lowest	3,478	7,804	764	246,926	14.4	38.2
Second	3,139	7,789	1,217	428,464	2.3	26.5
Third	3,148	7,813	1,836	641,648	0.0	6.6
Highest	3,073	7,799	2,696	929,332	0.0	0.9

SOURCE: Authors' calculations using MINT8.

NOTE: Weighted population totals do not necessarily equal the sum of counts by sex or lifetime earnings quartile because of rounding.

Table 4.
Projected effect of longevity adjustment 1 on Social Security benefits and poverty, by 10-year birth cohort and lifetime earnings quartile

Lifetime earnings quartile	First monthly benefit		Lifetime benefits		Change in age-70 poverty rate (percentage points)	
	Change in median amount (2019 dollars)	Median individual percentage change	Change in median amount (2019 dollars)	Median individual percentage change	Official measure	Supplemental measure
			Total			
All	-9	0	-5,211	-1	-0.6	-0.6
Lowest	48	10	18,480	9	-1.5	-1.7
Second	29	2	11,513	1	-1.1	-1.2
Third	-55	-2	-19,106	-2	0.0	0.3
Highest	-175	-10	-65,055	-9	0.0	0.1
			1940s birth cohort			
All	-8	-1	-3,577	-1	-0.4	-0.7
Lowest	39	4	11,100	4	-1.0	-1.5
Second	36	3	13,765	3	-0.8	-1.3
Third	-24	-1	-10,811	-1	0.0	-0.1
Highest	-172	-10	-52,626	-10	0.0	0.2
			1950s birth cohort			
All	-17	0	-6,656	0	-0.4	-0.5
Lowest	42	10	11,731	6	-0.8	-1.4
Second	17	3	6,823	0	-1.0	-0.8
Third	-51	0	-15,605	0	0.0	0.1
Highest	-127	-8	-43,024	-8	0.0	0.1
			1960s birth cohort			
All	-4	-1	-5,535	-1	-0.7	-0.8
Lowest	56	14	19,926	13	-1.8	-1.9
Second	27	0	8,233	1	-1.2	-1.5
Third	-47	-1	-17,954	-1	0.0	0.1
Highest	-215	-11	-76,162	-11	0.0	0.1
			1970s birth cohort			
All	-19	-4	-10,780	-5	-0.9	-0.5
Lowest	71	17	23,365	16	-2.3	-2.0
Second	20	1	7,138	1	-1.3	-1.1
Third	-110	-5	-31,757	-6	0.0	1.0
Highest	-255	-9	-90,585	-9	0.0	0.2

SOURCE: Authors' calculations using MINT8.

NOTE: Projected changes are estimated relative to benefits calculated using the current-law formula.

median initial monthly benefits. However, individuals in the lowest lifetime earnings quartile in any of the birth cohorts would see sizable increases in median initial monthly benefits. For example, in the lowest earnings quartile of the 1970s birth cohort, median initial monthly benefits would be $71 higher than current-law benefits, and the median individual percentage increase would be 17 percent.[10] In the highest quartile, median initial benefits would be reduced by $255, with a median individual percentage reduction of 9 percent. We observe similar results in each cohort. A general pattern clearly emerges of benefit increases in the lower quartiles of lifetime earnings, with larger increases for later cohorts, and benefit reductions in the higher quartiles.

We observe the same pattern for lifetime benefits. For example, for individuals in the lowest earnings quartile of the 1970s cohort, median lifetime benefits would increase by $23,365, and the median individual percentage increase would be 16 percent. For those in the top quartile, median lifetime benefits would decrease by $90,585 and the median individual percentage reduction would be 9 percent. As with the initial monthly benefit, the lowest quartile of the 1970s cohort would accrue the greatest increase in lifetime benefits.

The adjustment would reduce the official poverty rate overall and in each cohort. Further, poverty would be reduced in the two lowest quartiles, with no increase in the two highest quartiles. The reduction in poverty would affect all cohorts, becoming increasingly pronounced in the later cohorts. Some of the estimated poverty reductions are sizable. For example, in the 1970s birth cohort, longevity adjustment 1 reduces the official poverty rate for the lowest quartile by 2.3 percentage points.

For the supplemental poverty rate, we observe a similar pattern. Overall, the projected supplemental poverty rate would decline by 0.6 percentage points, the same as the projected effect on the official poverty rate. Likewise, the adjustment would reduce poverty for each cohort in the lowest quartiles and overall. In the 1940s birth cohort, for example, the adjustment would reduce the supplemental poverty rate for the lowest three quartiles, and the net effect for the entire birth cohort would be a reduction of 0.7 percentage points.

Table 5 shows the effects of the second longevity adjustment on retirement benefits relative to currently scheduled benefits. Adjustment 2 reduces the median initial monthly benefit by $7 overall—effectively, no change. Across cohorts, the pattern of changes in initial benefits under this adjustment is similar to that of the first adjustment. For example, in the lowest earnings quartile in the 1970s birth cohort, the increase in the median monthly initial benefit is $58 and the median individual percentage increase is 14 percent. In the highest quartile, the median benefit decrease is $189 and the median individual percentage reduction is 6 percent. Increases in initial benefits for those in the lowest earnings quartile, which become more pronounced in each successive 10-year cohort, are a consistent pattern. Decreases in initial benefits for those in the highest quartile, regardless of cohort, are a similarly consistent pattern.

These changes in initial benefits translate into a narrowing of the distribution of median lifetime benefits. For example, in the 1970s birth cohort, for those in the lowest earnings quartile, median lifetime benefits would increase by $18,730 and the median individual percentage increase would be 12 percent. For those in the highest quartile, median lifetime benefits would decrease by $68,696 and the median individual percentage reduction would be 6 percent. The patterns for poverty effects are similar to those of the first longevity adjustment.

Table 6 tabulates the effect of both longevity adjustments on projected benefits and poverty rates for men and women by lifetime earnings quartile and 10-year birth cohort. Broad patterns emerge of benefit reductions for workers with higher lifetime earnings and increases for those with lower earnings, regardless of sex and birth cohort. Substantial decreases in the official and supplemental poverty rates for beneficiaries with lower lifetime earnings, and little or no increase for those with higher lifetime earnings, appear in all four birth cohorts and for men and women alike. Because initial benefits are higher for men than for women, the dollar value of the benefit adjustment and the reductions in poverty are in most instances greater for men than for women. These patterns appear under either longevity adjustment.

Table 5.
Projected effect of longevity adjustment 2 on Social Security benefits and poverty, by 10-year birth cohort and lifetime earnings quartile

Lifetime earnings quartile	First monthly benefit		Lifetime benefits		Change in age-70 poverty rate (percentage points)	
	Change in median amount (2019 dollars)	Median individual percentage change	Change in median amount (2019 dollars)	Median individual percentage change	Official measure	Supplemental measure
			Total			
All	-7	0	-4,360	-1	-0.5	-0.4
Lowest	40	7	14,774	6	-1.2	-1.2
Second	20	1	8,029	0	-0.9	-0.8
Third	-45	-2	-15,429	-2	0.0	0.2
Highest	-135	-8	-49,944	-6	0.0	0.1
			1940s birth cohort			
All	-9	-1	-3,426	-1	-0.4	-0.5
Lowest	32	3	9,645	3	-0.9	-0.9
Second	26	3	10,847	3	-0.7	-1.0
Third	-19	-1	-9,125	-1	0.0	-0.1
Highest	-136	-8	-41,707	-8	0.0	0.2
			1950s birth cohort			
All	-16	0	-5,748	0	-0.3	-0.3
Lowest	33	7	8,325	4	-0.7	-0.9
Second	10	3	5,428	0	-0.7	-0.6
Third	-41	0	-11,404	0	0.0	0.0
Highest	-92	-6	-33,507	-6	0.0	0.0
			1960s birth cohort			
All	-5	-1	-4,162	-1	-0.6	-0.6
Lowest	49	10	15,534	10	-1.3	-1.6
Second	16	0	5,812	0	-1.0	-1.1
Third	-40	-1	-14,639	-1	0.0	0.0
Highest	-172	-8	-56,842	-8	0.0	0.1
			1970s birth cohort			
All	-13	-4	-8,674	-4	-0.8	-0.3
Lowest	58	14	18,730	12	-1.9	-1.5
Second	12	0	3,403	0	-1.2	-0.7
Third	-81	-4	-24,407	-5	0.0	0.8
Highest	-189	-6	-68,696	-6	0.0	0.1

SOURCE: Authors' calculations using MINT8.

NOTE: Projected changes are estimated relative to benefits calculated using the current-law formula.

Table 6.

Projected effect of longevity adjustments 1 and 2 on Social Security benefits and poverty, by sex, 10-year birth cohort, and lifetime earnings quartile

Lifetime earnings quartile	First monthly benefit				Lifetime benefits				Change in age-70 poverty rate (percentage points)			
	Change in median amount (2019 dollars)		Median individual percentage change		Change in median amount (2019 dollars)		Median individual percentage change		Official measure		Supplemental measure	
	A1	A2	A1	A2	A1	A2	A1	A2	A1	A2	A1	A2
						Men						
						Total						
All	-14	-6	0	0	-538	110	0	0	-0.9	-0.6	-0.7	-0.5
Lowest	103	77	14	10	24,772	18,351	12	9	-3.4	-2.5	-2.7	-1.8
Second	24	18	1	0	8,436	6,529	1	0	0.0	-0.5	0.0	-0.5
Third	-56	-43	-1	-1	-17,269	-12,402	-1	-1	0.0	0.4	0.0	0.4
Highest	-249	-190	-11	-8	-80,975	-60,425	-9	-6	0.0	0.1	0.0	0.0
						1940s birth cohort						
All	-30	-20	-2	-2	4,937	5,418	-2	-2	-0.5	-0.7	-0.4	-0.5
Lowest	90	71	12	9	19,047	13,732	12	9	-1.9	-2.3	-1.6	-1.6
Second	60	45	4	3	15,760	11,588	4	3	0.0	-0.9	0.0	-0.8
Third	-45	-36	-2	-2	-13,839	-11,060	-2	-2	0.0	0.2	0.0	0.1
Highest	-266	-211	-11	-9	-77,247	-61,402	-11	-9	0.0	0.2	0.0	0.2
						1950s birth cohort						
All	-2	-2	0	0	191	-907	0	0	-0.7	-0.6	-0.6	-0.4
Lowest	80	56	10	7	19,451	14,917	10	7	-2.8	-2.3	-2.2	-1.5
Second	0	1	0	0	-1,260	-1,096	0	0	0.0	-0.2	0.0	-0.2
Third	2	2	0	0	323	140	0	0	0.0	0.0	0.0	0.0
Highest	-210	-160	-8	-6	-60,563	-47,539	-8	-6	0.0	0.0	0.0	0.0
						1960s birth cohort						
All	-1	4	0	0	5,275	3,246	-1	-1	-1.0	-0.8	-0.7	-0.6
Lowest	113	83	14	10	29,845	22,048	14	10	-3.8	-2.4	-2.9	-1.9
Second	32	22	2	1	9,911	7,181	2	1	-0.1	-0.7	-0.1	-0.7
Third	-28	-22	-1	-1	-11,644	-8,812	-1	-1	0.0	0.0	0.0	0.0
Highest	-252	-184	-11	-8	-96,336	-70,375	-11	-8	0.0	0.1	0.0	0.1
						1970s birth cohort						
All	-25	-16	-4	-4	-7,597	-5,102	-7	-5	-1.1	-0.4	-0.9	-0.3
Lowest	135	96	19	14	32,432	25,245	19	14	-4.6	-2.8	-3.7	-2.1
Second	14	11	1	0	5,313	3,782	1	0	0.0	-0.4	0.0	-0.3
Third	-162	-114	-8	-5	-57,507	-41,079	-8	-5	0.0	1.5	0.0	1.3
Highest	-245	-181	-9	-6	-80,734	-58,661	-9	-6	0.0	0.0	0.0	0.0

(Continued)

Table 6.
Projected effect of longevity adjustments 1 and 2 on Social Security benefits and poverty, by sex, 10-year birth cohort, and lifetime earnings quartile—*Continued*

Lifetime earnings quartile	First monthly benefit				Lifetime benefits				Change in age-70 poverty rate (percentage points)			
	Change in median amount (2019 dollars)		Median individual percentage change		Change in median amount (2019 dollars)		Median individual percentage change		Official measure		Supplemental measure	
	A1	A2	A1	A2	A1	A2	A1	A2	A1	A2	A1	A2
						Women						
						Total						
All	-23	-17	-1	-1	-10,815	-8,285	-2	-2	-0.5	-0.6	-0.4	-0.4
Lowest	58	52	11	9	17,499	13,908	9	7	-1.3	-2.0	-1.1	-1.5
Second	11	9	3	2	3,522	2,859	1	1	-0.7	-1.1	-0.5	-0.8
Third	-40	-34	-3	-2	-11,614	-9,547	-3	-2	0.2	0.1	0.2	0.1
Highest	-216	-172	-12	-9	-75,049	-59,659	-10	-8	0.0	0.6	0.0	0.4
						1940s birth cohort						
All	-5	-5	-1	-1	-6,039	-3,892	-1	-1	-0.4	-0.6	-0.3	-0.4
Lowest	32	28	9	8	8,980	9,764	4	3	-1.1	-1.3	-0.9	-0.7
Second	6	9	3	3	4,696	4,454	3	3	-0.5	-1.3	-0.5	-1.0
Third	-16	-13	-1	-1	-3,380	-3,331	-1	-1	0.0	-0.3	0.0	-0.3
Highest	-161	-132	-10	-8	-49,437	-41,705	-10	-8	0.0	0.5	0.0	0.4
						1950s birth cohort						
All	-11	-10	0	0	-11,824	-9,038	-2	-1	-0.2	-0.4	-0.1	-0.3
Lowest	47	40	10	7	11,309	8,860	7	5	-0.6	-1.5	-0.4	-1.0
Second	20	17	3	3	6,923	5,275	2	2	-0.7	-0.9	-0.6	-0.7
Third	-42	-36	-4	-3	-11,416	-9,459	-4	-3	0.5	0.2	0.4	0.3
Highest	-181	-139	-10	-8	-61,245	-50,086	-10	-8	0.0	0.3	0.0	0.2
						1960s birth cohort						
All	-27	-24	-1	-2	-12,806	-8,918	-2	-2	-0.5	-0.8	-0.4	-0.7
Lowest	84	73	14	10	21,829	17,495	14	10	-1.8	-2.7	-1.4	-2.3
Second	-3	-3	0	0	837	-1,123	0	0	-0.5	-1.4	-0.3	-1.1
Third	-30	-22	-3	-2	-17,117	-15,316	-3	-2	0.2	0.3	0.1	0.3
Highest	-231	-177	-12	-9	-84,443	-67,694	-12	-9	0.0	0.6	0.0	0.4
						1970s birth cohort						
All	-25	-22	-4	-4	-14,507	-10,360	-4	-4	-0.7	-0.5	-0.6	-0.4
Lowest	71	65	17	14	25,448	19,636	16	12	-1.7	-2.3	-1.7	-1.8
Second	22	23	3	2	7,410	6,054	3	2	-1.0	-0.8	-0.7	-0.5
Third	-65	-54	-5	-4	-22,989	-19,185	-5	-4	0.0	0.0	0.0	0.1
Highest	-341	-260	-14	-10	-120,757	-93,085	-14	-10	0.0	1.0	0.0	0.7

SOURCE: Authors' calculations using MINT8.

NOTES: Projected changes are estimated relative to benefits calculated using the current-law formula.

A1 = adjustment 1; A2 = adjustment 2.

Discussion and Conclusion

Studies have shown that differential increases in life expectancy across lifetime earnings levels alter the progressivity of lifetime Social Security retirement benefits (Waldron 2007, 2013; Goldman and Orszag 2014). Workers with relatively low life expectancies at age 65 also tend to have lower lifetime earnings, lower benefit amounts, and higher poverty rates. Thus, adjusting the benefit formula to offset changes in lifetime benefits driven by differential life expectancy could address unintended trends in system progressivity and old-age poverty.

This article explores two particular examples of one conceptual approach to adjusting benefits for differential life expectancy. Both adjustments aim to allow any given beneficiary to receive about the same relative advantage from increasing societal life expectancies. The first adjustment would increase or reduce an individual's benefits by a factor that would match that of a beneficiary with the cohort-average life expectancy relative to that of an earlier birth cohort. The second adjustment allows each individual in a given cohort to collect longevity-adjusted benefits by equalizing average life expectancy within the cohort. Both adjustments increase benefits for individuals in the lowest quartiles of the lifetime earnings distribution and decrease benefits for those in the highest quartiles. Thus, the distribution of benefits is compressed.

The analysis shows that these adjustments would affect currently scheduled benefits as anticipated, and the effect would expand for successive cohorts because the longevity gap by socioeconomic status is projected to widen. Poverty rates based on both the official and supplemental measures would decline for those at the bottom of the lifetime earnings distribution. In the higher earnings quartiles, poverty rates would be unaffected under the official poverty measure and would increase incrementally under the supplemental measure. Using either measure, overall poverty would decline.

This research extends prior work studying benefit adjustments for differential gains in longevity. Those analyses considered benefit adjustments for differential mortality as one approach among a range of policies that might be employed in response to poverty among older women (Couch and others 2017) or in conjunction with other measures intended to address increasing life expectancy, such as raising the full retirement age (Reznik and others 2019). Here, we project the effect of adjustments relative to currently scheduled benefits. All of these analyses show that adjusting benefits to account for differential mortality reduces poverty primarily by increasing benefits for those with the shortest life expectancies.

Although the microsimulation methods used in the analysis are sophisticated and incorporate many factors, they rely primarily on historical patterns of individual earnings and mortality. Recent events such as the COVID-19 pandemic have clearly altered patterns of employment (Couch, Fairlie, and Xu 2020) and mortality. Although this analysis does not reflect these recent changes, we expect that the general effect of the types of adjustments analyzed here would nonetheless be similar if we were able to account for them. Even so, the results of this study should be qualified as not reflecting the effects of COVID-19. Once the patterns wrought by the pandemic have become clearer, reconsidering the effect of this type of benefit adjustment would be appropriate.

Finally, this analysis does not consider the Disability Insurance and Supplemental Security Income programs. For individuals who have disabilities that would qualify them for these programs, one might anticipate higher mortality than that of the general population, and that these individuals would have relatively low lifetime earnings. Thus, adjustments to the calculation of benefits, similar to those considered here, might also address differential longevity for disabled individuals. Future studies might analyze the effect of benefit adjustments based on differential changes in mortality to examine the potential implications for disability-program enrollment.

Notes

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[1] The 2010 National Commission on Fiscal Responsibility and Reform, also known as the Simpson-Bowles Commission, is a notable example. For an analysis of that plan's major provisions, see https://www.ssa.gov/OACT/solvency/FiscalCommission_20101201.pdf.

[2] The base version of MINT8 was calibrated to the intermediate assumptions of Board of Trustees (2018). In 2019, SSA's Office of Research, Evaluation, and Statistics updated MINT8 to the intermediate assumptions of Board of Trustees (2019); this article uses that updated version.

[3] Although widow(er)s younger than 60 may qualify for benefits based on care of the deceased beneficiary's dependent child(ren), we restrict the sample to individuals aged 60 or older for uniformity.

[4] For discussions of the implications of using one poverty measure versus the other, see Fox and others (2015) and Haveman and others (2015).

[5] The estimated initial benefit and lifetime benefits exclude the Social Security lump-sum death benefit (https://www.ssa.gov/planners/survivors/ifyou.html#h7) and parent's benefits (https://www.ssa.gov/pubs/EN-05-10036.pdf). Further, records with missing benefit values are not included in the results.

[6] For a detailed description of the AIME calculation, see https://www.ssa.gov/OACT/COLA/Benefits.html#aime.

[7] In calculating the quartiles, we converted AIMEs with missing values to zeros. One potential implication of doing so is that lifetime access to economic resources could be understated for women with high-earning spouses.

[8] This contrasts with period-specific mortality, which would examine outcomes if each individual shared the mortality of all individuals alive at that time.

[9] Recall that this set of adjustment factors is based on a comparison of the life expectancy of the 1928 birth cohort calculated in Goldman and Orszag (2014) with life expectancies for the 1940s, 1950s, 1960s, and 1970s birth cohorts that we calculate using MINT8. However, we exclude the ever-disabled population in the calculation of life expectancy, whereas Goldman and Orszag included that group. This difference may affect the comparisons because the life expectancy of the ever-disabled population is lower, on average, than that of the general population. If we had included the ever-disabled population, the percentage increase in life expectancy would presumably be smaller, thus reducing the size of the adjustment factors and the benefit increases/decreases for the lower/higher quartiles. However, testing the validity of that supposition was beyond the scope of this analysis.

[10] Rather than computing the percentage difference between the median *dollar amounts* of scheduled and adjusted benefits, we calculate the median *percentage change* in individual benefits. First, we compute the percentage difference between scheduled and adjusted benefits for each individual in the sample. Then, we determine the median among those individual percentage differences.

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