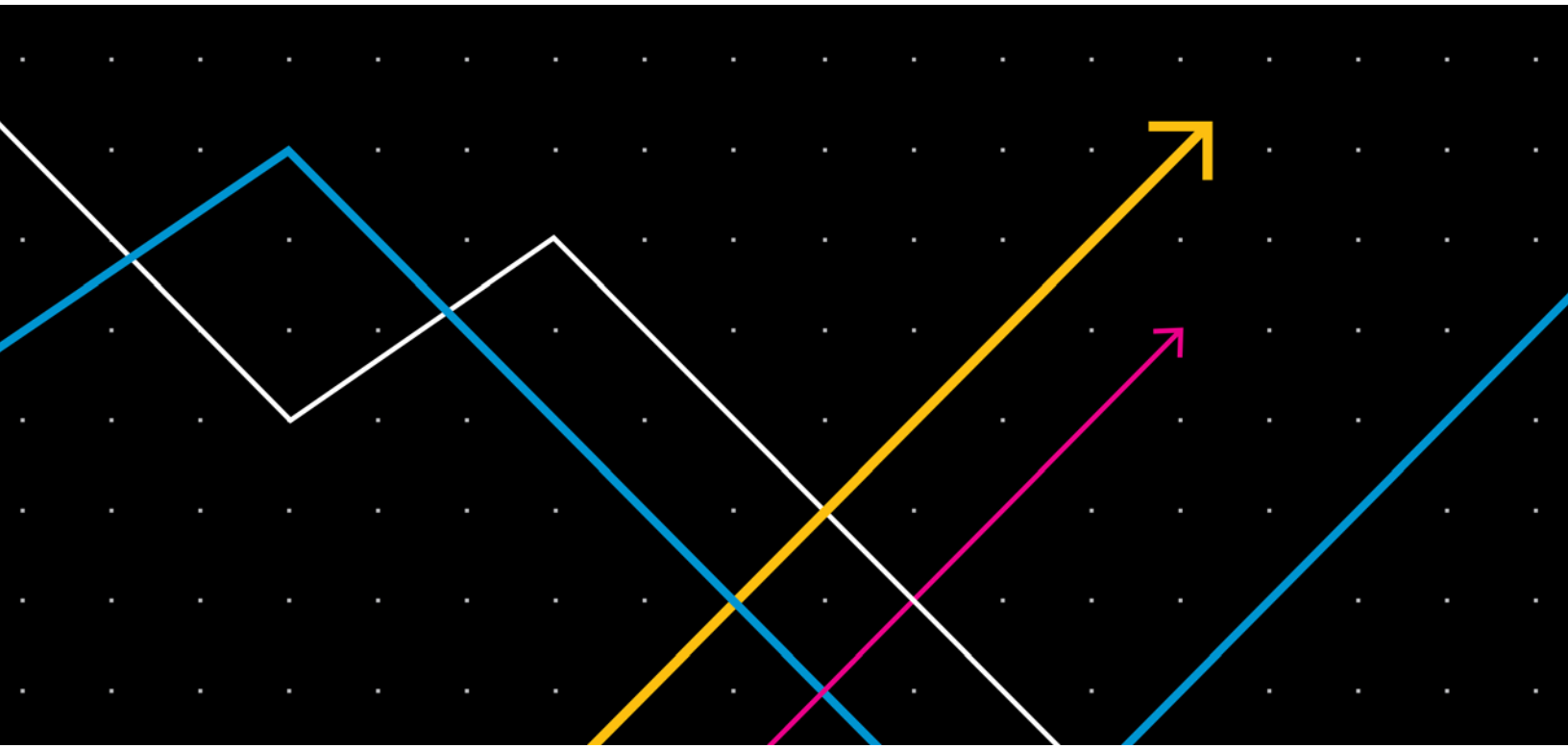

RESEARCH REPORT

Social Security and Medicare Benefits and Taxes: 2023

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The report's calculations are based on a model originally developed at the Urban Institute in 1992. We update the model annually to use the most recent Social Security and Medicare Trustees demographic and economic assumptions. Many other people have contributed to the model's development and updates over the years, including Jon Bakija, Gordon Mermin, Adam Carasso, Stephanie Rennane, Caleb Quakenbush, and Erald Kolasi.

Executive Summary

This report presents updated figures in 2023 dollars for the lifetime benefits earned and lifetime taxes paid by hypothetical workers participating in Social Security and Medicare. It allows comparisons across a century of past and projected future beneficiaries for individuals who have turned or will turn 65 between 1960 and 2060.

For a single male earning average wages every year and retiring in 2020 at age 65, his lifetime Social Security and Medicare benefits would equal about $640,000; a couple with one average earner and one low-wage earner retiring the same year would receive about $1,239,000. Those amounts rise and fall for other hypothetical households as their incomes rise and fall relative to average wages. Real benefits (that is, adjusted for inflation) also are scheduled to increase significantly for future retirees. rising with real wages in the case of Social Security and with higher health care costs and new health services in the case of Medicare. Those benefits would about double for individuals turning 65 in 2060.

As in our previous reports, lifetime Social Security and Medicare benefits are still scheduled to be significantly higher than lifetime Social Security and Medicare taxes for most workers in future decades. This is partly because the Medicare component of the federal payroll tax was designed to cover hospital costs but not doctor, outpatient, and other health services costs—and even those hospital costs are beginning to rise well above the revenues required to fund them. More generally, no generation has been asked to provide the dedicated funds necessary to cover its benefits under Medicare and Social Security. Nor have these two programs been adequately adjusted to deal with the costs of longer lifespans or rapidly increasing health care costs.

Given the projected near-term depletion of the Social Security trust fund (expected in 2034) and Medicare hospital insurance trust fund (expected in 2028), these data allow policymakers to visualize how much scheduled lifetime Social Security and health benefits:

- increase on a lifetime and annual basis;
- vary among people with different earnings and marriage histories; and
- vary across several decades of cohorts.

They also make clear that reforms could scale back the rate of growth of benefit increases and still allow lifetime benefits to increase significantly for each cohort of future retirees.

Simultaneously, the tables reveal how much lifetime Social Security taxes cover the cost of lifetime benefits that each cohort receives and how both benefits and taxes vary among different cohorts and people with different earnings and marriage histories.

Social Security and Medicare Lifetime Benefits and Taxes: 2023

Social Security and Medicare are central to the federal government's numerous social safety initiatives. About 66 million people received $1.232 trillion in benefits from the Old Age, Survivors, and Disability Insurance program in 2022 (Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds 2023). In the same year, Medicare paid benefits totaling $894 billion on behalf of 65 million beneficiaries (Board of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds 2023). The two programs have an enormous social and economic impact, particularly in financing vital health care and keeping millions of people out of poverty during their years of retirement.

In this report, we focus on how much hypothetical workers with specific income profiles and workers belonging to different retirement cohorts receive in lifetime benefits and how much they pay out in lifetime taxes. We discourage people from using our data to draw simplistic conclusions about whether individuals got their "money's worth" out of the current system. Social Security and Medicare, after all, operate primarily as pay-as-you-go systems, meaning that most taxes are not invested but are simply used to pay for benefits for current beneficiaries. In years when the trust funds approach zero, as occurred right before the 1983 reform and is happening now, almost all current tax collections go out immediately to pay current benefits. But even in years when income exceeds expenditures—such as when the baby boomer generation was mostly fully employed and had not yet started retiring—the trust fund buildup was only a small percentage of current revenue collections and a tiny fraction of rising liabilities.

Though each generation's taxes go toward supporting their parents' and grandparents' generations, this does not answer the question of what a new generation of retirees is owed by its own children and grandchildren. If fewer workers are around to support each retiree, and the goal is to replace the same share of earnings for cohorts of retirees over time, then the tax rate from Social Security or other sources on those children and grandchildren must rise relative to what current and past beneficiaries had to pay. Contrasting scheduled lifetime benefits with taxes, however, does offer a systematic way to compare how the system operates across generations and can inform understandings of whether different cohorts and types of households are treated fairly and efficiently by the United States' old-age systems. It also reveals how each generation might share in any increased burden from the reduced

benefits or increased taxes required to bring those systems into balance and ensure their continued solvency.

Results and Discussion

The tables in the next section of this report show the expected present value, at age 65, of benefits received in retirement and taxes paid over a career for households with different wage and marriage histories. The underlying data come from the 2023 Social Security and Medicare trustees' reports and supplemental data published by the Social Security Administration and Centers for Medicare & Medicaid Services (CMS).

In calculating expected present values, we use gender-adjusted probabilities to account for chance of death after age 65 and a discount rate of 2 percent plus inflation. This discount rate is above what many private annuities pay today but is close to a long-term real rate of return on bonds. When lifetime Social Security and Medicare benefits exceed lifetime Social Security and Medicare taxes, as is true for most households, the value of benefits from those programs becomes greater than the value of an annuity that the household would have been able to purchase with their lifetime taxes.

For Medicare lifetime benefits, we use an alternative 2023 cost scenario from CMS that overrides a "current law" scenario, wherein CMS assumes that Medicare reimbursement rates would decline relative to what private health insurance pays. If Medicare's reimbursement of health providers falls too low, providers might stop accepting Medicare, which could threaten beneficiaries' health and financial security. The CMS alternative scenario that we use effectively assumes that policymakers would act to prevent this from happening, as they have done in the past.

Changes from the last analysis we performed in 2022 are modest; the largest adjustment derives from presenting results in 2023 versus 2022 dollars. The COVID-19 pandemic also affected Medicare spending, temporarily raising COVID spending and reducing non-COVID spending—a pattern that is now reversing. Additionally, the Inflation Reduction Act, enacted in August 2022, has put greater price pressures on future health cost increases. Other changes derive from updated mortality figures and one more year of historic data on the growth in average earnings and inflation.

We project that both lifetime benefits and taxes will continue to increase for future workers and retirees because of rising real wage growth and rising life expectancy. However, lifetime benefits and taxes differ among households at different levels of income identified in each table. Benefit growth rates, designed to grow as earnings increase, have stagnated a bit recently because of modest growth in

those earnings subject to Social Security tax, and because of the scheduled increase in the full retirement age that phases in for cohorts reaching age 62 between 2000 and 2022.

The numbers we present are averages for hypothetical workers with specific work and marriage histories and longevity characteristics. Lifetime benefits and taxes experienced by specific households in the economy will vary based on several factors, including earnings patterns, health, and choices about marriage, divorce, children, and retirement. For instance, women have greater average expected lifetime benefits than men with the same earnings profile, which stems from their longer life expectancies.

Real lifetime benefits grow more generous over time as real wages grow, people live longer, and real health care costs increase. Many single adults with average earnings turning 65 in 2020 will receive $640,000 or more in lifetime benefits (tables 2 and 6). A couple with one earner at average wages and one at low wages will receive about $1.24 million in lifetime benefits (table 14).

While Social Security annual benefits have grown over time as wages have risen, lifetime Social Security and Medicare benefits reach this level largely because an average individual retiring in 2020 is projected to live close to two decades after reaching age 65 (more than four years longer than the average individual retiring in 1960). The longer-living spouse of a couple, both aged 65, will live close to three more decades. The growth in health benefits per household derives from both more years of benefits as individuals live longer and significant real (inflation-adjusted) increases in the levels of services and goods provided over time and their related costs.

Under scheduled law, millennials who retire around 2060 are scheduled to receive about twice the benefits of baby boomers who retired in 2020: $1.3 million for a single male earning an average income (table 2), $1.4 million for a single female earning an average income (table 6), and $2.5 million for a dual-earner couple with one spouse earning an average income and one earning a low income (table 14). While fiscal imbalances in Social Security, Medicare, and the rest of the federal budget may make this schedule of benefits hard to maintain, the numbers reveal substantial room for reformers to provide higher real levels of benefits over time, even if they pare down the growth rate in benefits.

Lifetime benefits scheduled for some high-income couples retiring by 2060 exceed $2.9 million (table 16). In addition, those estimates for higher-income retirees are probably low given the simplifying assumptions of a similar mortality rate for all men and, separately, for all women in given cohorts. After all, mortality rates tend to fall as income rises (Isaacs et al. 2021; Waldron 2007, 2013). By the same token, the estimates for lower-income earners are probably too high. Unfortunately, we do not have enough data to adjust for mortality by income for the hundred years of cohorts in these tables.

However, researchers at the Urban Institute conducted a related study to try to understand the effect of mortality on benefit levels (Steuerle, Cosic, and Quakenbush 2019). See the discussion in the appendix.

As for lifetime Social Security taxes, these too are rising in real terms: lifetime Social Security taxes recently have started to approximate benefits for some households at higher income levels (tables 7 and 16).

Lifetime Medicare benefits at all income levels, however, are still far in excess of anything that could be covered by the Medicare or hospital insurance (HI) tax component of the payroll tax for all the household examples in this study. At very high income levels, an extra 0.9 percent Medicare tax on earnings and a higher Medicare insurance premium in retirement through the Medicare Income-Related Monthly Adjustment Amount (IRMAA) could lead some individuals to pay more in taxes than they receive in benefits.

Because existing revenue shortfalls in Social Security and Medicare must be covered somehow, these tables allow reformers to compare the extent to which benefit cuts and revenue increases within those programs might be allocated across generations and different income groups.

Reform efforts often start by looking at one parameter at time, such as annual benefits or the benefit rate structure. The advantage of looking at lifetime benefits and taxes together is that it more holistically makes clear the choices being made for any given level of lifetime benefits. Thus, it demonstrates the trade-offs such as those between more years of benefits or higher annual benefits, more costly health insurance or higher cash benefits, and higher taxes on future workers or lower benefit growth rates for future retirees.

Tables

TABLE 1

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Single male with low earnings ($29,700 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	8,500	104,000	19,000	123,000	11,000	0	11,000
1965	8,900	114,000	34,000	148,000	18,000	0	18,000
1970	9,800	129,000	50,000	179,000	28,000	1,000	29,000
1975	11,500	144,000	67,000	211,000	40,000	3,000	43,000
1980	12,600	169,000	86,000	255,000	54,000	5,000	59,000
1985	11,900	158,000	107,000	265,000	68,000	8,000	76,000
1990	11,800	164,000	130,000	294,000	84,000	12,000	96,000
1995	12,600	179,000	154,000	333,000	101,000	17,000	118,000
2000	12,800	189,000	176,000	365,000	118,000	23,000	141,000
2005	14,100	215,000	198,000	413,000	134,000	29,000	163,000
2010	14,700	219,000	212,000	431,000	147,000	36,000	183,000
2015	14,700	219,000	230,000	449,000	157,000	41,000	198,000
2020	15,100	232,000	257,000	489,000	165,000	44,000	209,000
2025	15,000	238,000	298,000	536,000	176,000	48,000	224,000
2030	15,400	249,000	341,000	590,000	186,000	51,000	237,000
2035	16,700	273,000	385,000	658,000	195,000	54,000	249,000
2040	17,800	295,000	429,000	724,000	206,000	57,000	263,000
2045	18,900	317,000	474,000	791,000	216,000	60,000	276,000
2050	20,000	340,000	521,000	861,000	227,000	63,000	290,000
2055	21,200	363,000	572,000	935,000	241,000	67,000	308,000
2060	22,400	388,000	630,000	1,018,000	257,000	71,000	328,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 2

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Single male with average earnings ($66,100 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	12,900	156,000	19,000	175,000	25,000	0	25,000
1965	13,600	174,000	34,000	208,000	41,000	0	41,000
1970	15,400	202,000	50,000	252,000	62,000	2,000	64,000
1975	18,400	231,000	67,000	298,000	90,000	6,000	96,000
1980	20,900	280,000	86,000	366,000	121,000	11,000	132,000
1985	19,700	260,000	107,000	367,000	151,000	18,000	169,000
1990	19,500	271,000	130,000	401,000	186,000	28,000	214,000
1995	20,800	295,000	154,000	449,000	225,000	38,000	263,000
2000	21,100	312,000	176,000	488,000	262,000	50,000	312,000
2005	23,300	354,000	198,000	552,000	299,000	64,000	363,000
2010	24,300	361,000	212,000	573,000	327,000	79,000	406,000
2015	24,200	362,000	230,000	592,000	349,000	90,000	439,000
2020	25,000	383,000	257,000	640,000	367,000	99,000	466,000
2025	24,700	394,000	298,000	692,000	391,000	107,000	498,000
2030	25,400	410,000	341,000	751,000	414,000	114,000	528,000
2035	27,500	451,000	385,000	836,000	433,000	119,000	552,000
2040	29,400	487,000	429,000	916,000	457,000	126,000	583,000
2045	31,200	524,000	474,000	998,000	479,000	133,000	612,000
2050	33,000	561,000	521,000	1,082,000	504,000	140,000	644,000
2055	34,900	600,000	572,000	1,172,000	536,000	148,000	684,000
2060	36,900	640,000	630,000	1,270,000	572,000	158,000	730,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 3

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Single male with high earnings ($105,800 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	14,300	174,000	19,000	193,000	33,000	0	33,000
1965	15,000	191,000	34,000	225,000	51,000	0	51,000
1970	17,400	229,000	50,000	279,000	78,000	2,000	80,000
1975	21,600	271,000	67,000	338,000	115,000	8,000	123,000
1980	26,100	350,000	86,000	436,000	163,000	16,000	179,000
1985	24,700	327,000	107,000	434,000	207,000	28,000	235,000
1990	24,700	344,000	130,000	474,000	260,000	42,000	302,000
1995	26,600	377,000	154,000	531,000	322,000	59,000	381,000
2000	27,400	405,000	176,000	581,000	384,000	78,000	462,000
2005	30,700	465,000	198,000	663,000	448,000	100,000	548,000
2010	32,100	478,000	212,000	690,000	507,000	124,000	631,000
2015	32,000	479,000	230,000	709,000	554,000	143,000	697,000
2020	33,100	508,000	257,000	765,000	588,000	158,000	746,000
2025	32,600	520,000	298,000	818,000	626,000	171,000	797,000
2030	33,600	543,000	341,000	884,000	662,000	182,000	844,000
2035	36,400	595,000	385,000	980,000	692,000	191,000	883,000
2040	38,800	644,000	429,000	1,073,000	731,000	202,000	933,000
2045	41,300	693,000	474,000	1,167,000	767,000	213,000	980,000
2050	43,700	742,000	521,000	1,263,000	807,000	226,000	1,033,000
2055	46,200	793,000	572,000	1,365,000	857,000	241,000	1,098,000
2060	48,800	847,000	630,000	1,477,000	915,000	260,000	1,175,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 4

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Single male with maximum taxable earnings ($160,200 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	14,300	174,000	19,000	193,000	37,000	0	37,000
1965	15,000	191,000	34,000	225,000	56,000	0	56,000
1970	17,400	229,000	50,000	279,000	83,000	2,000	85,000
1975	21,700	271,000	67,000	338,000	121,000	8,000	129,000
1980	26,600	356,000	86,000	442,000	172,000	17,000	189,000
1985	25,700	341,000	107,000	448,000	225,000	32,000	257,000
1990	26,400	368,000	130,000	498,000	301,000	53,000	354,000
1995	29,000	412,000	154,000	566,000	392,000	77,000	469,000
2000	30,600	454,000	176,000	630,000	485,000	105,000	590,000
2005	35,200	535,000	198,000	733,000	588,000	137,000	725,000
2010	37,900	564,000	212,000	776,000	690,000	173,000	863,000
2015	38,700	578,000	230,000	808,000	784,000	206,000	990,000
2020	40,200	618,000	257,000	875,000	871,000	235,000	1,106,000
2025	39,800	634,000	298,000	932,000	953,000	261,000	1,214,000
2030	41,000	663,000	341,000	1,004,000	1,014,000	278,000	1,292,000
2035	44,500	728,000	385,000	1,113,000	1,063,000	294,000	1,357,000
2040	47,400	787,000	429,000	1,216,000	1,121,000	314,000	1,435,000
2045	50,400	847,000	474,000	1,321,000	1,182,000	336,000	1,518,000
2050	53,400	907,000	521,000	1,428,000	1,241,000	358,000	1,599,000
2055	56,300	967,000	572,000	1,539,000	1,315,000	385,000	1,700,000
2060	59,500	1,032,000	630,000	1,662,000	1,403,000	417,000	1,820,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 5

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Single female with low earnings ($29,700 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	8,600	134,000	29,000	163,000	11,000	0	11,000
1965	9,100	150,000	50,000	200,000	18,000	0	18,000
1970	10,100	170,000	71,000	241,000	28,000	1,000	29,000
1975	11,900	187,000	91,000	278,000	40,000	3,000	43,000
1980	12,600	207,000	112,000	319,000	54,000	5,000	59,000
1985	11,900	189,000	134,000	323,000	68,000	8,000	76,000
1990	11,800	193,000	157,000	350,000	84,000	12,000	96,000
1995	12,600	205,000	180,000	385,000	101,000	17,000	118,000
2000	12,800	213,000	201,000	414,000	118,000	23,000	141,000
2005	14,100	240,000	224,000	464,000	134,000	29,000	163,000
2010	14,700	244,000	241,000	485,000	147,000	36,000	183,000
2015	14,700	245,000	263,000	508,000	157,000	41,000	198,000
2020	15,100	260,000	294,000	554,000	165,000	44,000	209,000
2025	15,000	265,000	338,000	603,000	176,000	48,000	224,000
2030	15,400	275,000	384,000	659,000	186,000	51,000	237,000
2035	16,700	301,000	432,000	733,000	195,000	54,000	249,000
2040	17,800	325,000	479,000	804,000	206,000	57,000	263,000
2045	18,900	348,000	527,000	875,000	216,000	60,000	276,000
2050	20,000	372,000	578,000	950,000	227,000	63,000	290,000
2055	21,200	397,000	634,000	1,031,000	241,000	67,000	308,000
2060	22,400	422,000	695,000	1,117,000	257,000	71,000	328,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 6

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Single female with average earnings ($66,100 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	13,100	203,000	29,000	232,000	25,000	0	25,000
1965	14,000	232,000	50,000	282,000	41,000	0	41,000
1970	15,900	268,000	71,000	339,000	62,000	2,000	64,000
1975	19,100	302,000	91,000	393,000	90,000	6,000	96,000
1980	20,900	345,000	112,000	457,000	121,000	11,000	132,000
1985	19,700	312,000	134,000	446,000	151,000	18,000	169,000
1990	19,500	318,000	157,000	475,000	186,000	28,000	214,000
1995	20,800	338,000	180,000	518,000	225,000	38,000	263,000
2000	21,100	352,000	201,000	553,000	262,000	50,000	312,000
2005	23,300	396,000	224,000	620,000	299,000	64,000	363,000
2010	24,300	403,000	241,000	644,000	327,000	79,000	406,000
2015	24,200	404,000	263,000	667,000	349,000	90,000	439,000
2020	25,000	428,000	294,000	722,000	367,000	99,000	466,000
2025	24,700	437,000	338,000	775,000	391,000	107,000	498,000
2030	25,400	454,000	384,000	838,000	414,000	114,000	528,000
2035	27,500	497,000	432,000	929,000	433,000	119,000	552,000
2040	29,400	536,000	479,000	1,015,000	457,000	126,000	583,000
2045	31,200	575,000	527,000	1,102,000	479,000	133,000	612,000
2050	33,000	614,000	578,000	1,192,000	504,000	140,000	644,000
2055	34,900	654,000	634,000	1,288,000	536,000	148,000	684,000
2060	36,900	697,000	695,000	1,392,000	572,000	158,000	730,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 7

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Single female with high earnings ($105,800 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	14,600	227,000	29,000	256,000	33,000	0	33,000
1965	15,400	255,000	50,000	305,000	51,000	0	51,000
1970	18,100	305,000	71,000	376,000	78,000	2,000	80,000
1975	22,800	359,000	91,000	450,000	115,000	8,000	123,000
1980	26,100	431,000	112,000	543,000	163,000	16,000	179,000
1985	24,700	391,000	134,000	525,000	207,000	28,000	235,000
1990	24,700	404,000	157,000	561,000	260,000	42,000	302,000
1995	26,600	433,000	180,000	613,000	322,000	59,000	381,000
2000	27,400	456,000	201,000	657,000	384,000	78,000	462,000
2005	30,700	521,000	224,000	745,000	448,000	100,000	548,000
2010	32,100	533,000	241,000	774,000	507,000	124,000	631,000
2015	32,000	535,000	263,000	798,000	554,000	143,000	697,000
2020	33,100	567,000	294,000	861,000	588,000	158,000	746,000
2025	32,600	577,000	338,000	915,000	626,000	171,000	797,000
2030	33,600	600,000	384,000	984,000	662,000	182,000	844,000
2035	36,400	657,000	432,000	1,089,000	692,000	191,000	883,000
2040	38,800	708,000	479,000	1,187,000	731,000	202,000	933,000
2045	41,300	760,000	527,000	1,287,000	767,000	213,000	980,000
2050	43,700	812,000	578,000	1,390,000	807,000	226,000	1,033,000
2055	46,200	865,000	634,000	1,499,000	857,000	241,000	1,098,000
2060	48,800	922,000	695,000	1,617,000	915,000	260,000	1,175,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 8

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Single female with maximum taxable earnings ($160,200 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	14,600	227,000	29,000	256,000	37,000	0	37,000
1965	15,400	255,000	50,000	305,000	56,000	0	56,000
1970	18,100	305,000	71,000	376,000	83,000	2,000	85,000
1975	22,800	360,000	91,000	451,000	121,000	8,000	129,000
1980	26,600	438,000	112,000	550,000	172,000	17,000	189,000
1985	25,700	408,000	134,000	542,000	225,000	32,000	257,000
1990	26,400	431,000	157,000	588,000	301,000	53,000	354,000
1995	29,000	473,000	180,000	653,000	392,000	77,000	469,000
2000	30,600	511,000	201,000	712,000	485,000	105,000	590,000
2005	35,200	599,000	224,000	823,000	588,000	137,000	725,000
2010	37,900	629,000	241,000	870,000	690,000	173,000	863,000
2015	38,700	646,000	263,000	909,000	784,000	206,000	990,000
2020	40,200	690,000	294,000	984,000	871,000	235,000	1,106,000
2025	39,800	704,000	338,000	1,042,000	953,000	261,000	1,214,000
2030	41,000	733,000	384,000	1,117,000	1,014,000	278,000	1,292,000
2035	44,500	803,000	432,000	1,235,000	1,063,000	294,000	1,357,000
2040	47,400	866,000	479,000	1,345,000	1,121,000	314,000	1,435,000
2045	50,400	929,000	527,000	1,456,000	1,182,000	336,000	1,518,000
2050	53,400	992,000	578,000	1,570,000	1,241,000	358,000	1,599,000
2055	56,300	1,055,000	634,000	1,689,000	1,315,000	385,000	1,700,000
2060	59,500	1,124,000	695,000	1,819,000	1,403,000	417,000	1,820,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 9

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Married one-earner couple with low earnings ($29,700 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	12,800	193,000	48,000	241,000	11,000	0	11,000
1965	13,300	215,000	85,000	300,000	18,000	0	18,000
1970	14,800	243,000	121,000	364,000	28,000	1,000	29,000
1975	17,300	267,000	158,000	425,000	40,000	3,000	43,000
1980	18,900	308,000	197,000	505,000	54,000	5,000	59,000
1985	17,900	283,000	241,000	524,000	68,000	8,000	76,000
1990	17,700	291,000	287,000	578,000	84,000	12,000	96,000
1995	18,900	312,000	334,000	646,000	101,000	17,000	118,000
2000	19,200	326,000	377,000	703,000	118,000	23,000	141,000
2005	21,200	367,000	423,000	790,000	134,000	29,000	163,000
2010	22,100	374,000	453,000	827,000	147,000	36,000	183,000
2015	22,000	374,000	493,000	867,000	157,000	41,000	198,000
2020	22,700	397,000	551,000	948,000	165,000	44,000	209,000
2025	22,400	405,000	635,000	1,040,000	176,000	48,000	224,000
2030	23,100	421,000	725,000	1,146,000	186,000	51,000	237,000
2035	25,000	461,000	817,000	1,278,000	195,000	54,000	249,000
2040	26,700	497,000	908,000	1,405,000	206,000	57,000	263,000
2045	28,400	534,000	1,001,000	1,535,000	216,000	60,000	276,000
2050	30,000	570,000	1,099,000	1,669,000	227,000	63,000	290,000
2055	31,700	608,000	1,206,000	1,814,000	241,000	67,000	308,000
2060	33,500	648,000	1,325,000	1,973,000	257,000	71,000	328,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 10

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Married one-earner couple with average earnings ($66,100 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	19,300	290,000	48,000	338,000	25,000	0	25,000
1965	20,400	329,000	85,000	414,000	41,000	0	41,000
1970	23,100	380,000	121,000	501,000	62,000	2,000	64,000
1975	27,700	429,000	158,000	587,000	90,000	6,000	96,000
1980	31,400	511,000	197,000	708,000	121,000	11,000	132,000
1985	29,500	467,000	241,000	708,000	151,000	18,000	169,000
1990	29,200	481,000	287,000	768,000	186,000	28,000	214,000
1995	31,100	514,000	334,000	848,000	225,000	38,000	263,000
2000	31,700	538,000	377,000	915,000	262,000	50,000	312,000
2005	34,900	606,000	423,000	1,029,000	299,000	64,000	363,000
2010	36,500	617,000	453,000	1,070,000	327,000	79,000	406,000
2015	36,300	618,000	493,000	1,111,000	349,000	90,000	439,000
2020	37,500	655,000	551,000	1,206,000	367,000	99,000	466,000
2025	37,100	669,000	635,000	1,304,000	391,000	107,000	498,000
2030	38,100	695,000	725,000	1,420,000	414,000	114,000	528,000
2035	41,300	761,000	817,000	1,578,000	433,000	119,000	552,000
2040	44,000	820,000	908,000	1,728,000	457,000	126,000	583,000
2045	46,800	881,000	1,001,000	1,882,000	479,000	133,000	612,000
2050	49,600	941,000	1,099,000	2,040,000	504,000	140,000	644,000
2055	52,400	1,004,000	1,206,000	2,210,000	536,000	148,000	684,000
2060	55,300	1,069,000	1,325,000	2,394,000	572,000	157,000	729,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 11

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Married one-earner couple with high earnings ($105,800 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	21,500	323,000	48,000	371,000	33,000	0	33,000
1965	22,400	361,000	85,000	446,000	51,000	0	51,000
1970	26,200	430,000	121,000	551,000	78,000	2,000	80,000
1975	32,400	502,000	158,000	660,000	115,000	8,000	123,000
1980	39,200	639,000	197,000	836,000	163,000	16,000	179,000
1985	37,000	586,000	241,000	827,000	207,000	28,000	235,000
1990	37,000	609,000	287,000	896,000	260,000	42,000	302,000
1995	39,900	658,000	334,000	992,000	322,000	59,000	381,000
2000	41,000	697,000	377,000	1,074,000	384,000	78,000	462,000
2005	46,000	797,000	423,000	1,220,000	448,000	100,000	548,000
2010	48,200	815,000	453,000	1,268,000	507,000	124,000	631,000
2015	48,000	818,000	493,000	1,311,000	554,000	143,000	697,000
2020	49,600	867,000	551,000	1,418,000	588,000	158,000	746,000
2025	48,900	882,000	635,000	1,517,000	626,000	171,000	797,000
2030	50,400	919,000	725,000	1,644,000	662,000	182,000	844,000
2035	54,500	1,006,000	817,000	1,823,000	692,000	191,000	883,000
2040	58,200	1,085,000	908,000	1,993,000	731,000	202,000	933,000
2045	61,900	1,164,000	1,001,000	2,165,000	767,000	212,000	979,000
2050	65,500	1,245,000	1,099,000	2,344,000	807,000	224,000	1,031,000
2055	69,300	1,327,000	1,206,000	2,533,000	857,000	238,000	1,095,000
2060	73,200	1,414,000	1,325,000	2,739,000	915,000	255,000	1,170,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 12

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Married one-earner couple with maximum taxable earnings ($160,200 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	21,500	323,000	48,000	371,000	37,000	0	37,000
1965	22,400	361,000	85,000	446,000	56,000	0	56,000
1970	26,200	430,000	121,000	551,000	83,000	2,000	85,000
1975	32,500	503,000	158,000	661,000	121,000	8,000	129,000
1980	39,900	650,000	197,000	847,000	172,000	17,000	189,000
1985	38,600	611,000	241,000	852,000	225,000	32,000	257,000
1990	39,500	651,000	287,000	938,000	301,000	53,000	354,000
1995	43,500	719,000	334,000	1,053,000	392,000	77,000	469,000
2000	46,000	781,000	377,000	1,158,000	485,000	105,000	590,000
2005	52,900	916,000	423,000	1,339,000	588,000	137,000	725,000
2010	56,900	962,000	453,000	1,415,000	690,000	173,000	863,000
2015	58,000	988,000	493,000	1,481,000	784,000	206,000	990,000
2020	60,400	1,055,000	551,000	1,606,000	871,000	235,000	1,106,000
2025	59,600	1,076,000	635,000	1,711,000	953,000	261,000	1,214,000
2030	61,500	1,122,000	725,000	1,847,000	1,014,000	278,000	1,292,000
2035	66,700	1,229,000	817,000	2,046,000	1,063,000	293,000	1,356,000
2040	71,200	1,326,000	908,000	2,234,000	1,121,000	311,000	1,432,000
2045	75,700	1,424,000	1,001,000	2,425,000	1,182,000	331,000	1,513,000
2050	80,100	1,521,000	1,099,000	2,620,000	1,241,000	352,000	1,593,000
2055	84,500	1,619,000	1,206,000	2,825,000	1,315,000	377,000	1,692,000
2060	89,200	1,724,000	1,325,000	3,049,000	1,403,000	407,000	1,810,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 13

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Married couple with two low earners ($59,400 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	17,100	233,000	48,000	281,000	22,000	0	22,000
1965	17,900	263,000	85,000	348,000	37,000	0	37,000
1970	19,900	299,000	121,000	420,000	56,000	2,000	58,000
1975	23,400	331,000	158,000	489,000	81,000	5,000	86,000
1980	25,200	376,000	197,000	573,000	109,000	10,000	119,000
1985	23,800	346,000	241,000	587,000	136,000	17,000	153,000
1990	23,600	357,000	287,000	644,000	168,000	25,000	193,000
1995	25,200	384,000	334,000	718,000	203,000	34,000	237,000
2000	25,500	402,000	377,000	779,000	236,000	45,000	281,000
2005	28,300	455,000	423,000	878,000	269,000	58,000	327,000
2010	29,400	463,000	453,000	916,000	295,000	71,000	366,000
2015	29,300	464,000	493,000	957,000	314,000	81,000	395,000
2020	30,300	492,000	551,000	1,043,000	331,000	89,000	420,000
2025	29,900	503,000	635,000	1,138,000	352,000	96,000	448,000
2030	30,800	524,000	725,000	1,249,000	373,000	102,000	475,000
2035	33,300	574,000	817,000	1,391,000	390,000	107,000	497,000
2040	35,600	620,000	908,000	1,528,000	411,000	114,000	525,000
2045	37,800	666,000	1,001,000	1,667,000	431,000	119,000	550,000
2050	40,000	712,000	1,099,000	1,811,000	454,000	126,000	580,000
2055	42,300	760,000	1,206,000	1,966,000	482,000	133,000	615,000
2060	44,700	810,000	1,325,000	2,135,000	515,000	141,000	656,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 14

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Married couple with one average earner and one low earner ($95,800 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	21,500	309,000	48,000	357,000	36,000	0	36,000
1965	22,700	351,000	85,000	436,000	59,000	0	59,000
1970	25,500	405,000	121,000	526,000	90,000	3,000	93,000
1975	30,300	455,000	158,000	613,000	130,000	8,000	138,000
1980	33,500	534,000	197,000	731,000	176,000	16,000	192,000
1985	31,600	489,000	241,000	730,000	218,000	27,000	245,000
1990	31,200	504,000	287,000	791,000	270,000	40,000	310,000
1995	33,400	539,000	334,000	873,000	327,000	55,000	382,000
2000	33,900	565,000	377,000	942,000	380,000	73,000	453,000
2005	37,400	636,000	423,000	1,059,000	433,000	93,000	526,000
2010	39,000	648,000	453,000	1,101,000	475,000	115,000	590,000
2015	38,800	649,000	493,000	1,142,000	506,000	131,000	637,000
2020	40,100	688,000	551,000	1,239,000	533,000	143,000	676,000
2025	39,700	703,000	635,000	1,338,000	568,000	155,000	723,000
2030	40,800	731,000	725,000	1,456,000	600,000	165,000	765,000
2035	44,200	800,000	817,000	1,617,000	628,000	173,000	801,000
2040	47,200	863,000	908,000	1,771,000	662,000	183,000	845,000
2045	50,100	927,000	1,001,000	1,928,000	695,000	192,000	887,000
2050	53,100	991,000	1,099,000	2,090,000	731,000	203,000	934,000
2055	56,100	1,057,000	1,206,000	2,263,000	777,000	215,000	992,000
2060	59,200	1,126,000	1,325,000	2,451,000	830,000	231,000	1,061,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 15

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Married couple with two average earners ($132,200 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	25,900	353,000	48,000	401,000	49,000	0	49,000
1965	27,600	405,000	85,000	490,000	81,000	0	81,000
1970	31,400	472,000	121,000	593,000	124,000	4,000	128,000
1975	37,600	535,000	158,000	693,000	179,000	12,000	191,000
1980	41,800	625,000	197,000	822,000	242,000	22,000	264,000
1985	39,300	572,000	241,000	813,000	301,000	37,000	338,000
1990	38,900	590,000	287,000	877,000	373,000	55,000	428,000
1995	41,500	633,000	334,000	967,000	451,000	76,000	527,000
2000	42,200	664,000	377,000	1,041,000	525,000	100,000	625,000
2005	46,600	750,000	423,000	1,173,000	598,000	128,000	726,000
2010	48,600	764,000	453,000	1,217,000	654,000	158,000	812,000
2015	48,400	766,000	493,000	1,259,000	698,000	180,000	878,000
2020	50,000	812,000	551,000	1,363,000	735,000	198,000	933,000
2025	49,400	831,000	635,000	1,466,000	783,000	214,000	997,000
2030	50,800	865,000	725,000	1,590,000	828,000	227,000	1,055,000
2035	55,000	948,000	817,000	1,765,000	866,000	239,000	1,105,000
2040	58,700	1,023,000	908,000	1,931,000	914,000	253,000	1,167,000
2045	62,400	1,099,000	1,001,000	2,100,000	959,000	266,000	1,225,000
2050	66,100	1,175,000	1,099,000	2,274,000	1,008,000	282,000	1,290,000
2055	69,800	1,254,000	1,206,000	2,460,000	1,071,000	302,000	1,373,000
2060	73,800	1,337,000	1,325,000	2,662,000	1,144,000	326,000	1,470,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

TABLE 16

Expected Present Value of Lifetime Social Security and Medicare Benefits and Taxes

Married couple with one high earner and one average earner ($171,900 in 2023 dollars)

		Lifetime Benefits			Lifetime Taxes		
Year cohort turns age 65	First-year Social Security benefit	Social Security	Medicare (net of premiums)	Total	Social Security	Medicare	Total
1960	27,400	377,000	48,000	425,000	57,000	0	57,000
1965	29,000	427,000	85,000	512,000	92,000	0	92,000
1970	33,400	506,000	121,000	627,000	140,000	4,000	144,000
1975	40,700	587,000	158,000	745,000	205,000	14,000	219,000
1980	47,000	724,000	197,000	921,000	284,000	28,000	312,000
1985	44,300	664,000	241,000	905,000	357,000	46,000	403,000
1990	44,100	689,000	287,000	976,000	447,000	70,000	517,000
1995	47,300	743,000	334,000	1,077,000	547,000	97,000	644,000
2000	48,500	786,000	377,000	1,163,000	646,000	128,000	774,000
2005	54,000	896,000	423,000	1,319,000	747,000	164,000	911,000
2010	56,500	915,000	453,000	1,368,000	834,000	203,000	1,037,000
2015	56,200	918,000	493,000	1,411,000	903,000	233,000	1,136,000
2020	58,000	973,000	551,000	1,524,000	955,000	257,000	1,212,000
2025	57,300	993,000	635,000	1,628,000	1,018,000	278,000	1,296,000
2030	59,000	1,034,000	725,000	1,759,000	1,077,000	295,000	1,372,000
2035	63,900	1,132,000	817,000	1,949,000	1,125,000	310,000	1,435,000
2040	68,200	1,222,000	908,000	2,130,000	1,188,000	330,000	1,518,000
2045	72,500	1,312,000	1,001,000	2,313,000	1,246,000	350,000	1,596,000
2050	76,700	1,403,000	1,099,000	2,502,000	1,311,000	375,000	1,686,000
2055	81,100	1,497,000	1,206,000	2,703,000	1,393,000	406,000	1,799,000
2060	85,700	1,596,000	1,325,000	2,921,000	1,488,000	443,000	1,931,000

Source: Authors' calculations.

Note: The calculations assume scheduled benefits are paid after trust fund assets are depleted.

Appendix A. Basic Data and Assumptions

Data

Program rules, economic projections, and mortality assumptions are taken from the 2023 annual reports of the Social Security and Medicare trustees and from supplemental data provided in the Social Security Bulletin and the Centers for Medicare & Medicaid Services actuaries. Our assumptions come from the intermediate cost scenarios provided in the trustees' report, except for Medicare benefits as described below.

Work and Earnings Histories

Following Social Security's use of hypothetical workers, individuals start working at age 22 and work continuously until they retire on their 65th birthdays. Their wage levels are set according to the Social Security Administration's national average wage index.[1] An average worker earns the average wages of all workers as adjusted annually by the national wage index in every year of work, low-earning workers earn 45 percent of the index, and high-earning workers earn 160 percent of the index each year. A maximum taxable worker earns the maximum taxable wage for Social Security taxes every year.[2] The national average wage index was estimated as $66,147 in 2023. Each hypothetical worker stays at the same earnings level relative to the index in each year, except for the worker earning the maximum taxable wage, which, although indexed currently, has also changed with legislation.

We use the Social Security definition of average wage because of its common use as a standard in many Social Security publications. Many workers have varied labor force participation over their careers, and the average wage is calculated only for people who have earnings for that year. Because many individuals have some years with zero earnings—because of child care, unemployment or other circumstances—they would have lower average lifetime earnings than the person who earned the average wage every year.

We examined this phenomenon in a recent report (Steuerle, Cosic, and Quakenbush 2019) using the DYNASIM microsimulation model that allowed us to examine the distribution of taxes and benefits for the population. Unfortunately, we have no reliable historical and projected data to perform that type of analysis over long periods, such as the hundred years included in this report. Accordingly,

hypothetical households remain most useful for making like-to-like and easy-to-understand comparisons of people in similar circumstances over a large part of history and scheduled future. A comparison of results from these two methods in the 2019 report showed that the largest impact of assuming a constant work history and retirement was to overstate lifetime taxes paid but only modestly overstate lifetime benefits. These differences reflect the fact that Social Security only counts 35 years of earnings in determining retired worker benefits. Furthermore, spousal and survivor benefits are add-ons that require no earnings or taxes by those spouses nor a reduction in annual benefit by the worker on whose earnings those additional benefits are determined. Therefore, for presentational purposes, we suggest that users of this report use the couple with one average earner and one low earner as roughly representing lifetime benefits for a typical couple.

Marriage

Spouses in the calculations for couples are assumed to be the same age and to marry at age 24. For the purpose of our analysis, couples are considered to be continuously married throughout their careers and retirement. Therefore, we do not include divorce benefits in the calculation of lifetime benefits. Because real-life spouses often differ by age, our projections of total years of benefit for the same-aged couple will generally be lower than the total years of benefits for couples of different ages. For the same reason, we also modestly understate the years of survivorship and availability of survivor benefits. We also do not include child benefits in these calculations.

Mortality

All individuals are assumed to live to age 65. After age 65, we apply sex-adjusted mortality probabilities to retirees receiving benefits to arrive at expected values of benefits received. These values come from cohort life tables provided by the Social Security Administration to the Urban Institute and used in the 2023 trustees report. They do not include adjustments for income or other factors; for example, a female worker with high lifetime earnings is assumed to have the same life expectancy as a female worker with low lifetime earnings. Because women on average have longer life expectancies than men, expected lifetime benefits for women are higher than for men with identical earnings histories.

Discount Rates

The model applies a 2 percent real (inflation-adjusted) discount rate for both benefits and taxes. We assume that a higher discount rate would lead to estimates of higher lifetime taxes and lower lifetime

benefits, while a lower discount rate would lead to lower lifetime taxes and higher lifetime benefits. We use the Social Security Administration's historical and projected series for the consumer price index for urban wage earners and clerical workers to adjust all numbers for inflation.

Calculating Lifetime Taxes

Included Taxes

Workers pay payroll taxes every year they earn wages. Calculated lifetime taxes include contributions to the retirement portion of Social Security (OASI) and to the hospital insurance (HI) portion of Medicare, also known as Part A. Medicare taxes also include the 0.9 percent "surtax" (which took effect in 2013) paid by individual workers earning $200,000 or more and married couples earning more than $250,000 combined. Those minimum earnings levels are not adjusted for inflation; still, only a few high earners in the distant future pay the surtax at the earnings levels examined in our study.

By statute, the payroll tax, except for the HI surtax, is split evenly between workers and employers, with each paying 5.3 percent for the OASI tax and 1.45 percent for the HI tax (tax rates varied before 2019).[3] These two taxes constitute most of the 7.65 percent OASDHI tax, usually referred to as the Social Security tax, but exclude the 0.9 percent disability portion. However, a standard economic assumption is that in the long run, employers pass the employer portion of this payroll tax onto workers by slowing wage growth or offering fewer fringe benefits. Therefore, we assume that workers pay both the employer and employee shares of the payroll tax.

We do not adjust for the temporary provision in the Tax Cuts and Jobs Act of 2017 allowing a 20 percent deduction for individual income arising from "pass-through" arrangements as partnerships, self-employment, and Subchapter S corporations, because it was designed as a deduction only against income, not Social Security taxes.

Excluded Taxes

We exclude disability insurance payroll taxes because our model does not include calculation of disability insurance benefits. We also exclude the partial income taxation of Social Security benefits, as this would require additional assumptions about people's non–Social Security income after age 65. This income also mingles with other income subject to tax. While the Treasury formally makes transfers to the Social Security trust fund on the liberal assumption that this income gets stacked last at the

marginal (not average) tax rate, such an assumption for all government programs would lead to a substantial overstatement of the total tax paid by individuals for all government services and benefits received.

For related reasons, such as how to determine who eventually pays for Social Security and non–Social Security debt, we exclude both transfers from the general fund used to finance non–HI Medicare benefits and any shortfalls in trust fund obligations. Our examples only extend to the maximum per worker Social Security taxable earnings level ($160,200 in 2023); workers with earnings above that level pay additional HI tax with no corresponding increase in benefits.

Calculating Expected Lifetime Benefits

Social Security Benefits

The model calculates a first-year Social Security benefit based on rules in effect for a cohort at the time of retirement. Because all workers are assumed to retire at age 65, retirees born after 1937 and turning 65 in 2002 receive a phased-in reduction in annual benefits for retiring before the full retirement age. The choice of age 65 as the age of retirement has only a modest effect on the calculation of lifetime benefits for each cohort. That is, the annual penalty reduction for early retirement is designed to be roughly actuarially neutral, so this has only a small effect on lifetime benefits (i.e., the reduction for early retirement roughly offsets the gain from collecting benefits for additional years). In years after age 65, we increase benefits by the cost of living adjustment assumed in the Social Security trustees' reports and discount back to age 65 using the 2 percent real discount rate.

Medicare Benefits

To calculate annual Medicare benefits, the model uses average Medicare expenditures per Medicare enrollee for both HI and supplemental medical insurance (parts A, B, and D). As with Social Security lifetime benefits, the stream of Medicare benefits is adjusted for probability of dying each year after age 65 and discounted using the 2 percent real rate back to age 65.

In reality, the distribution of both annual and lifetime Medicare expenditures is highly uneven, though less so in the latter case, with most expenditures in any given year focused on a relatively small number of high-cost people. However, the estimates here should be considered as rough estimates of the insurance cost of Medicare, calculated as the average cost of providing those benefits across the

beneficiary population. In addition, average expenditures normally increase with age, as people who are just turning 65 are, on average, healthier than those at more advanced ages. The lifetime value of health benefits would thus be higher if we had provided an age-adjusted measure of insurance value (Steuerle and Quakenbush 2012).

Medicare Premiums

To account for premiums paid for enrollees in Medicare parts B and D, we subtract average premiums from average Medicare expenditures to calculate benefits net of premiums. Higher premiums for high-income beneficiaries—formally labeled an income-related monthly adjustment amount (IRMAA)—are not included here since they generally do not apply to people with incomes at the levels shown. A couple who pays IRMAA in 2023 would have received substantial income from continued work, required minimum distributions from their retirement accounts, or other sources that raise the modified adjusted gross income on their 2021 income tax returns above $194,000. Over time, more households become subject to the income-based premium adjustments because the income thresholds were not indexed to inflation until 2020 and because real wages will rise over time, pushing more households above the thresholds (Cubanski and Neuman 2017).

Medicare Cost Scenario

Lifetime Medicare benefits are estimated using an "illustrative alternative scenario" published by CMS actuaries (Shatto and Clemens 2022). Before the 2015 trustees reports, the intermediate current law scenario assumed that deep cuts in physician payment rates scheduled in law would take effect, resulting in lower projected Medicare expenditures. In reality, Congress prevented most of these cuts, which could have resulted in fewer service providers accepting Medicare. The CMS actuaries produce a supplemental analysis with the Medicare trustees report each year to illustrate cost effects, assuming that physician payment rates would not be cut and that several other cost-reducing measures, many introduced in the Affordable Care Act, would not be fully implemented. This alternative scenario formed the basis of our updates from 2012 forward.

The Medicare Access and CHIP Reauthorization Act of 2015 introduced a permanent adjustment to the formulas used to calculate physician reimbursement rates so these periodic "doc fixes" would no longer be required. However, the CMS actuaries report that under the new formulas, reimbursement rates for physicians accepting Medicare will continue to fall over time relative to the reimbursement rate of private insurance, and this decline may not be sustainable over the long run. The actuaries'

illustrative scenario, used here, assumes these provisions are scaled back over time, resulting in higher projected Medicare expenditures and therefore higher estimated lifetime benefits.

Notes

[1] The Social Security average wage index is available at "The 2023 OASDI Trustees Report," Social Security Administration, https://www.ssa.gov/oact/cola/AWI.html and https://www.ssa.gov/OACT/TR/2023/index.html (table VI.G6), accessed July 2023.

[2] Social Security contribution and benefit base (taxable maximum) is available at "2023 OASDI Trustees Report: C. Program-Specific Assumptions and Methods," Social Security Administration, https://www.ssa.gov/oact/cola/cbb.html and https://www.ssa.gov/OACT/TR/2023/V_C_prog.html#1047210, accessed July 2023.

[3] Historic OASDI tax rates are available at "Social Security Tax Rates," Social Security Administration, https://www.ssa.gov/oact/progdata/oasdiRates.html, accessed July 2023.

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