

## **REPLACEMENT RATES FOR HYPOTHETICAL RETIRED WORKERS**

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### **Introduction**

Adequacy and equity of Social Security benefits are major policy considerations for the program. One measure of adequacy is the percentage of pre-retirement earnings that Social Security benefits replace, or the “replacement rate”. The numerator of this replacement rate is well established as the Social Security benefit. One indicator of equity is the degree of variation in replacement rates across different career-average earnings levels and birth cohorts.

In this note, we use the average of the highest 35 years of earnings, wage-indexed to the year before retirement, as the replacement rate denominator. Because Social Security serves a large population of workers with career earnings patterns that vary greatly, we believe the denominator used in this note is the most appropriate choice for measuring the adequacy of Social Security retirement benefits. For a full analysis of this and other possible concepts of replacement rates, see Actuarial Note Number 155 at:

[http://www.ssa.gov/OACT/NOTES/pdf\\_notes/note155.pdf](http://www.ssa.gov/OACT/NOTES/pdf_notes/note155.pdf).

We base all calculations on the intermediate assumptions of the 2019 Trustees Report.

### **Social Security Benefits**

The Social Security benefit formula<sup>1</sup> uses wage-indexed earnings in computing the primary insurance amount (PIA). For a retired worker starting benefits at any age, the PIA formula:

- Indexes annual earnings for those years when the worker is younger than age 60 using changes in the national average wage index (AWI) between each year of younger age and age 60;
- Averages the highest 35 years of these indexed earnings and unindexed earnings at age 60 and over, and converts this average to a monthly

amount, called average indexed monthly earnings (AIME);

- Applies factors of 90 percent, 32 percent, and 15 percent to specified portions of the AIME in a progressive manner, resulting in higher portions of earnings replaced for those with lower AIMEs; and
- Applies cost-of-living increases for each year after age 62.

The retired-worker benefit payable at any age is the PIA adjusted for early or delayed retirement.

The AIME calculation reflects a worker’s career-average earnings level adjusted for changes in the standard of living over the worker’s career, which is consistent with a wage-indexed denominator for the replacement rate measure.

### **Earnings Patterns for Hypothetical Workers**

Our analysis includes five hypothetical workers with different pre-retirement career-average earnings levels. Four of the hypothetical workers in the tables assume the earnings history of workers following scaled-earnings patterns<sup>2</sup> and reflect very low, low, medium, and high career-average levels of pre-retirement earnings starting at age 21. The fifth hypothetical worker assumes the earnings history of a steady maximum earner starting at age 22. The scaled-earnings patterns are derived from earnings experienced by insured workers in years 1996 through 2015. The earnings levels differ by age, reflecting both the likelihood of having earnings at each age, and the average earnings levels for those who have earnings. The career-average level of earnings for each scaled earner case targets a specific percent of the AWI. For the scaled very low, low, medium, and high earners, the career-average earnings level is about 25 percent, 45 percent, 100 percent, and 160 percent of the AWI, respectively (\$13,466, \$24,239, \$53,864, and \$86,182, respectively, for 2019). The steady maximum earner has earnings at or above the contribution and benefit base (\$132,900 for 2019) for

<sup>1</sup> Prior to the 1977 Amendments to the Social Security Act, the benefit formula differed. Historical benefit levels reflect the benefit formula in effect at the time.

<sup>2</sup> Actuarial Note Number 2019.3 has more details on scaled-earnings patterns. See [www.ssa.gov/OACT/NOTES/ran3/an2019-3.pdf](http://www.ssa.gov/OACT/NOTES/ran3/an2019-3.pdf).

each year starting at age 22 through the year prior to retirement.

## Results

Tables A through D show benefit and replacement rate information for the five different pre-retirement earnings levels. Each table shows the Social Security benefit in wage-indexed 2019 dollars and as a percent of career average earnings (the replacement rate measure in this note). The denominator of this replacement rate is the average of the highest 35 years of earnings for these hypothetical workers, wage-indexed to the year before retirement.<sup>3</sup> This calculation is very similar to the current-law AIME calculation, except that the AIME calculation wage-indexes earnings to age 60 rather than to the year before retirement. The calculations in these tables are wage-indexed to the year before retirement to provide a closer comparison of pre-retirement earnings and post-retirement benefit levels.

Tables A through C show benefit amounts and replacement rates for retirement at 62, at 65, and at normal retirement age (NRA) for the hypothetical workers born in 1953 and selected subsequent years. In comparing across tables, benefit levels and replacement rates are lowest at age 62 and highest at NRA. This occurs because an actuarial reduction applies to the monthly benefit for those retiring before NRA. For an NRA of 67, individuals retiring at exact age 62 would have a 30 percent reduction in benefits, and those retiring at

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<sup>3</sup> In table D, in order to calculate the career-average earnings for birth cohorts where individuals attain age 21 before 1951, we use national average earnings from 1937 to 1950 in SSA's employee operations manual, available at <http://policy.ssa.gov/poms.nsf/lnx/0201701200>. For years prior to 1937, we use the 1937 national average earnings level.

age 65 would have a 13<sup>1</sup>/<sub>3</sub> percent reduction. Table D shows benefit amounts and replacement rates for retirement at 62,<sup>4</sup> at 65, and at normal retirement age (NRA) for selected hypothetical workers born between 1875 and 1950.

Tables A through C show current-law scheduled benefits and payable benefits in separate panels. Current-law scheduled benefits are those specified in the law. However, when the trust fund reserves deplete, current law prescribes that expenditures cannot exceed current income. Because the projected date that the combined OASI and DI Trust Funds deplete is 2035 and projected income will not fully finance scheduled benefits after that date, the tables include "payable benefits", where scheduled benefits are reduced such that current-law income is sufficient to pay benefits for that year.

Tables A through C also include current-law scheduled and payable benefits in CPI-indexed 2019 dollars.<sup>5</sup> The current-law scheduled benefits column shows a general increase over time in the purchasing power of Social Security benefits, which would be necessary for retirees across generations to maintain a similar standard of living.

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<sup>4</sup> The Social Security Act extended retirement benefits beginning at age 62 to female workers effective November 1956 and to male workers effective August 1961.

<sup>5</sup> A CPI-indexed 2019 dollar adjustment uses the adjusted CPI indexing series in table VI.G6 of the 2019 Trustees Report. See: [www.ssa.gov/OACT/TR/2019/lr6g6.html](http://www.ssa.gov/OACT/TR/2019/lr6g6.html).

**Table A—Scheduled and Payable Benefits and Replacement Rates for Hypothetical Retired Workers<sup>a</sup> in their First Year of Benefit Receipt at Age 62**  
*(based on intermediate assumptions of the 2019 OASDI Trustees Report)*

Year of birth <sup>c</sup>	Year attain age 62	Current-Law Scheduled Benefits		Payable Benefits		Purchasing Power of Benefits in CPI-Indexed 2019 dollars <sup>b</sup>	
		Wage-indexed 2019 dollars <sup>d</sup>	Percent of career-average earnings <sup>e</sup>	Wage-indexed 2019 dollars <sup>d</sup>	Percent of career-average earnings <sup>e</sup>	Current-Law Scheduled Benefits	Payable Benefits
<b>Scaled very low earnings: (Career-average earnings for 2018 equal \$12,916<sup>f</sup>)</b>							
1953	2015	\$7,835	60.4	\$7,835	60.4	\$7,536	\$7,536
1954	2016	8,028	60.4	8,028	60.4	7,734	7,734
1955	2017	7,939	61.1	7,939	61.1	7,747	7,747
1956	2018	7,719	59.1	7,719	59.1	7,557	7,557
1957	2019	7,595	58.8	7,595	58.8	7,595	7,595
1960	2022	7,215	56.0	7,215	56.0	7,613	7,613
1965	2027	7,225	56.1	7,225	56.1	8,234	8,234
1970	2032	7,272	56.3	7,272	56.3	8,836	8,836
1975	2037	7,282	56.3	5,766	44.6	9,415	7,455
1980	2042	7,290	56.3	5,749	44.4	9,993	7,881
1985	2047	7,288	56.3	5,807	44.9	10,588	8,437
1990	2052	7,283	56.3	5,827	45.0	11,241	8,994
1995	2057	7,284	56.3	5,789	44.7	11,949	9,497
2000	2062	7,287	56.3	5,706	44.1	12,703	9,947
2005	2067	7,292	56.4	5,618	43.5	13,484	10,389
2010	2072	7,295	56.4	5,528	42.7	14,291	10,830
2015	2077	7,298	56.4	5,477	42.3	15,130	11,354
2020	2082	7,300	56.4	5,496	42.5	16,007	12,050
2025	2087	7,300	56.4	5,525	42.7	16,925	12,811
<b>Scaled low earnings: (Career-average earnings for 2018 equal \$23,249<sup>f</sup>)</b>							
1953	2015	10,240	43.8	10,240	43.8	9,849	9,849
1954	2016	10,488	43.9	10,488	43.9	10,103	10,103
1955	2017	10,383	44.4	10,383	44.4	10,132	10,132
1956	2018	10,095	43.0	10,095	43.0	9,884	9,884
1957	2019	9,927	42.7	9,927	42.7	9,927	9,927
1960	2022	9,431	40.7	9,431	40.7	9,951	9,951
1965	2027	9,450	40.7	9,450	40.7	10,769	10,769
1970	2032	9,512	40.9	9,512	40.9	11,557	11,557
1975	2037	9,520	40.9	7,538	32.4	12,308	9,746
1980	2042	9,534	40.9	7,520	32.3	13,070	10,308
1985	2047	9,530	40.9	7,594	32.6	13,846	11,033
1990	2052	9,523	40.9	7,619	32.7	14,699	11,761
1995	2057	9,522	40.9	7,568	32.5	15,621	12,415
2000	2062	9,524	40.9	7,458	32.0	16,602	13,001
2005	2067	9,532	40.9	7,344	31.5	17,626	13,580
2010	2072	9,537	40.9	7,227	31.0	18,683	14,158
2015	2077	9,541	40.9	7,160	30.7	19,780	14,844
2020	2082	9,542	40.9	7,183	30.8	20,922	15,750
2025	2087	9,543	41.0	7,223	31.0	22,126	16,747
<b>Scaled medium earnings: (Career-average earnings for 2018 equal \$51,665<sup>f</sup>)</b>							
1953	2015	16,865	32.5	16,865	32.5	16,222	16,222
1954	2016	17,279	32.5	17,279	32.5	16,645	16,645
1955	2017	17,099	32.9	17,099	32.9	16,686	16,686
1956	2018	16,636	31.9	16,636	31.9	16,289	16,289
1957	2019	16,344	31.6	16,344	31.6	16,344	16,344
1960	2022	15,529	30.1	15,529	30.1	16,385	16,385
1965	2027	15,559	30.2	15,559	30.2	17,731	17,731
1970	2032	15,664	30.3	15,664	30.3	19,031	19,031
1975	2037	15,671	30.3	12,409	24.0	20,261	16,043
1980	2042	15,697	30.3	12,380	23.9	21,518	16,971
1985	2047	15,693	30.3	12,505	24.1	22,800	18,168
1990	2052	15,677	30.3	12,543	24.2	24,197	19,360
1995	2057	15,678	30.3	12,460	24.1	25,720	20,442
2000	2062	15,682	30.3	12,280	23.7	27,336	21,406
2005	2067	15,694	30.3	12,091	23.3	29,019	22,357
2010	2072	15,701	30.3	11,899	23.0	30,758	23,309
2015	2077	15,708	30.3	11,787	22.7	32,564	24,437

**Table A—Scheduled and Payable Benefits and Replacement Rates for Hypothetical Retired Workers<sup>a</sup> in their First Year of Benefit Receipt at Age 62 (Cont.)**

(based on intermediate assumptions of the 2019 OASDI Trustees Report)

Year of birth <sup>c</sup>	Year attain age 62	Current-Law Scheduled Benefits		Payable Benefits		Purchasing Power of Benefits in CPI-Indexed 2019 dollars <sup>b</sup>	
		Wage-indexed 2019 dollars <sup>d</sup>	Percent of career-average earnings <sup>e</sup>	Wage-indexed 2019 dollars <sup>d</sup>	Percent of career-average earnings <sup>e</sup>	Current-Law Scheduled Benefits	Payable Benefits
2020	2082	\$15,711	30.3	\$11,827	22.8	\$34,447	\$25,931
2025	2087	15,710	30.3	11,891	22.9	36,425	27,570
<b>Scaled high earnings: (Career-average earnings for 2018 equal \$82,664<sup>f</sup>)</b>							
1953	2015	22,388	26.9	22,388	26.9	21,534	21,534
1954	2016	22,929	27.0	22,929	27.0	22,087	22,087
1955	2017	22,708	27.3	22,708	27.3	22,159	22,159
1956	2018	22,078	26.4	22,078	26.4	21,618	21,618
1957	2019	21,693	26.2	21,693	26.2	21,693	21,693
1960	2022	20,615	25.0	20,615	25.0	21,751	21,751
1965	2027	20,653	25.0	20,653	25.0	23,536	23,536
1970	2032	20,789	25.1	20,789	25.1	25,257	25,257
1975	2037	20,803	25.1	16,472	19.9	26,896	21,297
1980	2042	20,834	25.2	16,431	19.9	28,560	22,525
1985	2047	20,827	25.2	16,596	20.1	30,259	24,112
1990	2052	20,809	25.1	16,649	20.1	32,119	25,698
1995	2057	20,809	25.1	16,538	19.9	34,139	27,133
2000	2062	20,814	25.1	16,299	19.7	36,283	28,413
2005	2067	20,830	25.2	16,048	19.4	38,516	29,674
2010	2072	20,839	25.2	15,792	19.1	40,823	30,937
2015	2077	20,848	25.2	15,645	18.9	43,220	32,434
2020	2082	20,852	25.2	15,697	19.0	45,720	34,417
2025	2087	20,852	25.2	15,783	19.1	48,346	36,593
<b>Steady maximum earnings: (Career-average earnings for 2018 equal \$127,061<sup>f</sup>)</b>							
1953	2015	27,065	21.5	27,065	21.5	26,032	26,032
1954	2016	27,780	21.4	27,780	21.4	26,761	26,761
1955	2017	27,546	21.7	27,546	21.7	26,881	26,881
1956	2018	26,843	20.9	26,843	20.9	26,283	26,283
1957	2019	26,403	20.8	26,403	20.8	26,403	26,403
1960	2022	25,120	19.8	25,120	19.8	26,504	26,504
1965	2027	25,207	19.8	25,207	19.8	28,726	28,726
1970	2032	25,396	19.8	25,396	19.8	30,855	30,855
1975	2037	25,390	19.8	20,105	15.7	32,827	25,993
1980	2042	25,446	19.8	20,069	15.6	34,882	27,511
1985	2047	25,409	19.9	20,247	15.9	36,915	29,416
1990	2052	25,341	19.9	20,275	15.9	39,113	31,294
1995	2057	25,313	19.9	20,118	15.8	41,527	33,005
2000	2062	25,307	19.9	19,817	15.6	44,113	34,544
2005	2067	25,330	19.9	19,515	15.3	46,838	36,086
2010	2072	25,344	19.9	19,206	15.1	49,648	37,625
2015	2077	25,359	19.9	19,030	14.9	52,572	39,452
2020	2082	25,366	19.9	19,095	15.0	55,618	41,868
2025	2087	25,366	19.9	19,200	15.1	58,813	44,516

<sup>a</sup> The table uses four hypothetical “scaled” earnings levels and a hypothetical worker who earns the taxable maximum each year. See Actuarial Note Number 2019.3 at [www.ssa.gov/OACT/NOTES/ran3/an2019-3.pdf](http://www.ssa.gov/OACT/NOTES/ran3/an2019-3.pdf) for more information.

<sup>b</sup> CPI-indexed dollar adjustment uses the adjusted CPI indexing series shown in table VI.G6 of the 2019 OASDI Trustees Report.

<sup>c</sup> Born on January 2nd of year.

<sup>d</sup> Wage-indexed dollar adjustment uses the national average wage indexing series shown in table VI.G6 of the 2019 OASDI Trustees Report.

<sup>e</sup> Computed using nominal dollars.

<sup>f</sup> Average of highest 35 years of wage-indexed earnings through the year prior to retirement. The value is for retirement in 2019. Thus, the annual earnings used for this average are wage-indexed to 2018.

**Table B—Scheduled and Payable Benefits and Replacement Rates for Hypothetical Retired Workers<sup>a</sup> in their First Year of Benefit Receipt at Age 65**  
*(based on intermediate assumptions of the 2019 OASDI Trustees Report)*

Year of birth <sup>c</sup>	Year attain age 65	Current-Law Scheduled Benefits		Payable Benefits		Purchasing Power of Benefits in CPI-Indexed 2019 dollars <sup>b</sup>	
		Wage-indexed 2019 dollars <sup>d</sup>	Percent of career-average earnings <sup>e</sup>	Wage-indexed 2019 dollars <sup>d</sup>	Percent of career-average earnings <sup>e</sup>	Current-Law Scheduled Benefits	Payable Benefits
<b>Scaled very low earnings: (Career-average earnings for 2018 equal \$12,949<sup>f</sup>)</b>							
1953	2018	\$9,307	71.1	\$9,307	71.1	\$9,112	\$9,112
1954	2019	9,518	73.5	9,518	73.5	9,518	9,518
1955	2020	9,431	73.3	9,431	73.3	9,621	9,621
1956	2021	9,092	70.5	9,092	70.5	9,445	9,445
1957	2022	8,904	68.9	8,904	68.9	9,395	9,395
1960	2025	8,571	66.3	8,571	66.3	9,461	9,461
1965	2030	8,638	66.6	8,638	66.6	10,234	10,234
1970	2035	8,703	67.1	7,846	60.5	10,979	9,898
1975	2040	8,727	67.3	6,872	53.0	11,691	9,205
1980	2045	8,750	67.4	6,945	53.5	12,416	9,855
1985	2050	8,734	67.4	6,986	53.9	13,156	10,523
1990	2055	8,721	67.3	6,960	53.7	13,963	11,143
1995	2060	8,724	67.3	6,874	53.0	14,845	11,697
2000	2065	8,735	67.3	6,775	52.2	15,778	12,239
2005	2070	8,748	67.4	6,670	51.4	16,748	12,769
2010	2075	8,757	67.5	6,588	50.8	17,749	13,354
2015	2080	8,764	67.5	6,582	50.7	18,792	14,114
2020	2085	8,768	67.6	6,626	51.1	19,880	15,024
2025	2090	8,767	67.5	6,625	51.0	21,022	15,885
<b>Scaled low earnings: (Career-average earnings for 2018 equal \$23,308<sup>f</sup>)</b>							
1953	2018	12,183	51.7	12,183	51.7	11,929	11,929
1954	2019	12,451	53.4	12,451	53.4	12,451	12,451
1955	2020	12,348	53.3	12,348	53.3	12,598	12,598
1956	2021	11,908	51.3	11,908	51.3	12,369	12,369
1957	2022	11,657	50.1	11,657	50.1	12,300	12,300
1960	2025	11,214	48.2	11,214	48.2	12,378	12,378
1965	2030	11,308	48.5	11,308	48.5	13,398	13,398
1970	2035	11,395	48.8	10,273	44.0	14,375	12,960
1975	2040	11,423	48.9	8,995	38.5	15,302	12,049
1980	2045	11,453	49.0	9,091	38.9	16,253	12,900
1985	2050	11,432	49.0	9,144	39.2	17,220	13,773
1990	2055	11,418	48.9	9,112	39.0	18,281	14,589
1995	2060	11,418	48.9	8,997	38.5	19,429	15,309
2000	2065	11,432	49.0	8,868	38.0	20,651	16,019
2005	2070	11,450	49.0	8,730	37.4	21,920	16,712
2010	2075	11,462	49.1	8,623	36.9	23,233	17,480
2015	2080	11,471	49.1	8,616	36.9	24,597	18,474
2020	2085	11,476	49.1	8,673	37.1	26,020	19,664
2025	2090	11,474	49.1	8,670	37.1	27,513	20,790
<b>Scaled medium earnings: (Career-average earnings for 2018 equal \$51,795)</b>							
1953	2018	20,076	38.4	20,076	38.4	19,657	19,657
1954	2019	20,538	39.7	20,538	39.7	20,538	20,538
1955	2020	20,355	39.6	20,355	39.6	20,766	20,766
1956	2021	19,627	38.1	19,627	38.1	20,387	20,387
1957	2022	19,222	37.2	19,222	37.2	20,281	20,281
1960	2025	18,506	35.8	18,506	35.8	20,427	20,427
1965	2030	18,646	36.0	18,646	36.0	22,092	22,092
1970	2035	18,791	36.2	16,941	32.6	23,705	21,371
1975	2040	18,842	36.3	14,836	28.6	25,240	19,874
1980	2045	18,886	36.4	14,990	28.9	26,801	21,273
1985	2050	18,851	36.3	15,078	29.0	28,396	22,712
1990	2055	18,828	36.3	15,026	29.0	30,144	24,057
1995	2060	18,829	36.3	14,837	28.6	32,041	25,247
2000	2065	18,853	36.3	14,624	28.2	34,055	26,416
2005	2070	18,880	36.4	14,395	27.8	36,145	27,558
2010	2075	18,900	36.4	14,219	27.4	38,309	28,822

**Table B—Scheduled and Payable Benefits and Replacement Rates for Hypothetical Retired Workers<sup>a</sup> in their First Year of Benefit Receipt at Age 65 (Cont.)**

(based on intermediate assumptions of the 2019 OASDI Trustees Report)

Year of birth <sup>c</sup>	Year attain age 65	Current-Law Scheduled Benefits		Payable Benefits		Purchasing Power of Benefits in CPI-Indexed 2019 dollars <sup>b</sup>	
		Wage-indexed 2019 dollars <sup>d</sup>	Percent of career-average earnings <sup>e</sup>	Wage-indexed 2019 dollars <sup>d</sup>	Percent of career-average earnings <sup>e</sup>	Current-Law Scheduled Benefits	Payable Benefits
2015	2080	\$18,916	36.4	\$14,207	27.3	\$40,560	\$30,463
2020	2085	18,923	36.4	14,301	27.5	42,904	32,423
2025	2090	18,920	36.4	14,296	27.5	45,367	34,281
<b>Scaled high earnings: (Career-average earnings for 2018 equal \$82,872<sup>f</sup>)</b>							
1953	2018	26,605	31.8	26,605	31.8	26,050	26,050
1954	2019	27,208	32.8	27,208	32.8	27,208	27,208
1955	2020	26,971	32.8	26,971	32.8	27,515	27,515
1956	2021	25,993	31.5	25,993	31.5	26,999	26,999
1957	2022	25,447	30.8	25,447	30.8	26,849	26,849
1960	2025	24,492	29.6	24,492	29.6	27,034	27,034
1965	2030	24,683	29.8	24,683	29.8	29,244	29,244
1970	2035	24,877	30.0	22,428	27.0	31,382	28,293
1975	2040	24,946	30.0	19,642	23.6	33,416	26,312
1980	2045	25,002	30.1	19,845	23.9	35,480	28,161
1985	2050	24,956	30.1	19,961	24.1	37,592	30,068
1990	2055	24,923	30.0	19,890	23.9	39,902	31,844
1995	2060	24,924	30.0	19,639	23.6	42,412	33,419
2000	2065	24,955	30.1	19,357	23.3	45,078	34,966
2005	2070	24,994	30.1	19,056	22.9	47,850	36,482
2010	2075	25,020	30.1	18,824	22.6	50,714	38,155
2015	2080	25,041	30.1	18,807	22.6	53,692	40,326
2020	2085	25,051	30.2	18,931	22.8	56,796	42,922
2025	2090	25,046	30.2	18,926	22.8	60,058	45,382
<b>Steady maximum earnings: (Career-average earnings for 2018 equal \$127,061<sup>f</sup>)</b>							
1953	2018	32,385	25.3	32,385	25.3	31,709	31,709
1954	2019	33,134	26.1	33,134	26.1	33,134	33,134
1955	2020	32,875	26.0	32,875	26.0	33,539	33,539
1956	2021	31,721	25.0	31,721	25.0	32,949	32,949
1957	2022	31,069	24.4	31,069	24.4	32,781	32,781
1960	2025	29,936	23.5	29,936	23.5	33,043	33,043
1965	2030	30,207	23.6	30,207	23.6	35,789	35,789
1970	2035	30,457	23.7	27,459	21.4	38,423	34,640
1975	2040	30,516	23.8	24,028	18.7	40,878	32,187
1980	2045	30,601	23.8	24,289	18.9	43,425	34,468
1985	2050	30,510	23.8	24,403	19.0	45,958	36,759
1990	2055	30,413	23.9	24,272	19.1	48,692	38,859
1995	2060	30,382	23.9	23,940	18.8	51,700	40,737
2000	2065	30,399	23.9	23,580	18.5	54,912	42,594
2005	2070	30,450	23.9	23,216	18.2	58,296	44,447
2010	2075	30,485	24.0	22,936	18.1	61,792	46,490
2015	2080	30,514	24.0	22,918	18.0	65,428	49,141
2020	2085	30,529	24.0	23,071	18.1	69,217	52,308
2025	2090	30,525	24.0	23,066	18.1	73,195	55,309

<sup>a</sup> The table uses four hypothetical “scaled” earnings levels and a hypothetical worker who earns the taxable maximum each year. See Actuarial Note Number 2019.3 at [www.ssa.gov/OACT/NOTES/ran3/an2019-3.pdf](http://www.ssa.gov/OACT/NOTES/ran3/an2019-3.pdf) for more information.

<sup>b</sup> CPI-indexed dollar adjustment uses the adjusted CPI indexing series shown in table VI.G6 of the 2019 OASDI Trustees Report.

<sup>c</sup> Born on January 2nd of year.

<sup>d</sup> Wage-indexed dollar adjustment uses the national average wage indexing series shown in table VI.G6 of the 2019 OASDI Trustees Report.

<sup>e</sup> Computed using nominal dollars.

<sup>f</sup> Average of highest 35 years of wage-indexed earnings through the year prior to retirement. The value is for retirement in 2019. Thus, the annual earnings used for this average are wage-indexed to 2018.

**Table C—Scheduled and Payable Benefits and Replacement Rates for Hypothetical Retired Workers<sup>a</sup> in their First Year of Benefit Receipt at Normal Retirement Age (NRA)**  
*(based on intermediate assumptions of the 2019 OASDI Trustees Report)*

Year of birth <sup>c</sup>	Year attain NRA	Age at retirement	Current-Law Scheduled Benefits		Payable Benefits		Purchasing Power of Benefits in CPI-Indexed 2019 dollars <sup>b</sup>	
			Wage-indexed 2019 dollars <sup>d</sup>	Percent of career-average earnings <sup>e</sup>	Wage-indexed 2019 dollars <sup>d</sup>	Percent of career-average earnings <sup>e</sup>	Current-Law Scheduled Benefits	Payable Benefits
<b>Scaled very low earnings: (Career-average earnings for 2018 equal \$12,949<sup>f</sup>)</b>								
1953	2019	66:0	\$9,843	76.0	\$9,843	76.0	\$9,843	\$9,843
1954	2020	66:0	9,924	77.2	9,924	77.2	10,125	10,125
1955	2021	66:2	10,105	77.8	10,105	77.8	10,451	10,451
1956	2022	66:4	9,917	75.7	9,917	75.7	10,374	10,374
1957	2023	66:6	9,875	74.8	9,875	74.8	10,438	10,438
1960	2027	67:0	9,579	74.2	9,579	74.2	10,917	10,917
1965	2032	67:0	9,718	75.0	9,718	75.0	11,807	11,807
1970	2037	67:0	9,801	75.6	7,761	59.9	12,672	10,034
1975	2042	67:0	9,846	75.9	7,765	59.9	13,497	10,645
1980	2047	67:0	9,861	76.0	7,858	60.6	14,327	11,416
1985	2052	67:0	9,837	75.9	7,870	60.7	15,183	12,148
1990	2057	67:0	9,825	75.8	7,809	60.2	16,119	12,811
1995	2062	67:0	9,826	75.8	7,695	59.4	17,129	13,413
2000	2067	67:0	9,847	75.9	7,586	58.5	18,208	14,028
2005	2072	67:0	9,866	76.0	7,477	57.6	19,327	14,647
2010	2077	67:0	9,882	76.1	7,415	57.1	20,486	15,373
2015	2082	67:0	9,891	76.2	7,446	57.4	21,688	16,326
2020	2087	67:0	9,895	76.2	7,489	57.7	22,942	17,365
2025	2092	67:0	9,892	76.2	7,444	57.3	24,258	18,256
<b>Scaled low earnings: (Career-average earnings for 2018 equal \$23,308<sup>f</sup>)</b>								
1953	2019	66:0	12,884	55.3	12,884	55.3	12,884	12,884
1954	2020	66:0	12,981	56.1	12,981	56.1	13,243	13,243
1955	2021	66:2	13,218	56.5	13,218	56.5	13,671	13,671
1956	2022	66:4	12,979	55.0	12,979	55.0	13,578	13,578
1957	2023	66:6	12,936	54.4	12,936	54.4	13,672	13,672
1960	2027	67:0	12,543	54.0	12,543	54.0	14,294	14,294
1965	2032	67:0	12,730	54.6	12,730	54.6	15,466	15,466
1970	2037	67:0	12,836	55.0	10,164	43.5	16,595	13,140
1975	2042	67:0	12,888	55.2	10,165	43.5	17,668	13,935
1980	2047	67:0	12,910	55.3	10,287	44.1	18,756	14,946
1985	2052	67:0	12,875	55.2	10,302	44.2	19,873	15,900
1990	2057	67:0	12,859	55.1	10,220	43.8	21,097	16,768
1995	2062	67:0	12,864	55.1	10,073	43.1	22,424	17,560
2000	2067	67:0	12,889	55.2	9,930	42.5	23,833	18,362
2005	2072	67:0	12,914	55.3	9,787	41.9	25,299	19,172
2010	2077	67:0	12,933	55.4	9,706	41.6	26,812	20,121
2015	2082	67:0	12,946	55.4	9,746	41.7	28,386	21,369
2020	2087	67:0	12,951	55.4	9,803	41.9	30,028	22,728
2025	2092	67:0	12,948	55.4	9,744	41.7	31,753	23,897
<b>Scaled medium earnings: (Career-average earnings for 2018 equal \$51,795<sup>f</sup>)</b>								
1953	2019	66:0	21,248	41.0	21,248	41.0	21,248	21,248
1954	2020	66:0	21,411	41.6	21,411	41.6	21,843	21,843
1955	2021	66:2	21,797	42.0	21,797	42.0	22,545	22,545
1956	2022	66:4	21,403	40.8	21,403	40.8	22,390	22,390
1957	2023	66:6	21,332	40.4	21,332	40.4	22,546	22,546
1960	2027	67:0	20,697	40.1	20,697	40.1	23,586	23,586
1965	2032	67:0	21,002	40.5	21,002	40.5	25,516	25,516
1970	2037	67:0	21,166	40.8	16,760	32.3	27,366	21,669
1975	2042	67:0	21,252	40.9	16,761	32.3	29,133	22,977
1980	2047	67:0	21,291	41.0	16,966	32.7	30,933	24,649
1985	2052	67:0	21,233	40.9	16,989	32.7	32,773	26,222
1990	2057	67:0	21,209	40.9	16,857	32.5	34,796	27,655
1995	2062	67:0	21,217	40.9	16,614	32.0	36,984	28,961
2000	2067	67:0	21,256	41.0	16,377	31.6	39,305	30,282
2005	2072	67:0	21,297	41.0	16,139	31.1	41,721	31,617
2010	2077	67:0	21,328	41.1	16,005	30.8	44,216	33,181

**Table C—Scheduled and Payable Benefits and Replacement Rates for Hypothetical Retired Workers<sup>a</sup> in their First Year of Benefit Receipt at Normal Retirement Age (NRA) (Cont.)**  
(based on intermediate assumptions of the 2019 OASDI Trustees Report)

Year of birth <sup>c</sup>	Year attain NRA	Age at retirement	Current-Law Scheduled Benefits		Payable Benefits		Purchasing Power of Benefits in CPI-Indexed 2019 dollars <sup>b</sup>	
			Wage-indexed 2019 dollars <sup>d</sup>	Percent of career-average earnings <sup>e</sup>	Wage-indexed 2019 dollars <sup>d</sup>	Percent of career-average earnings <sup>e</sup>	Current-Law Scheduled Benefits	Payable Benefits
2015	2082	67:0	\$21,350	41.1	\$16,072	30.9	\$46,813	\$35,240
2020	2087	67:0	21,357	41.1	16,165	31.1	49,517	37,479
2025	2092	67:0	21,351	41.1	16,068	30.9	52,360	39,405
<b>Scaled high earnings: (Career-average earnings for 2018 equal \$82,872<sup>f</sup>)</b>								
1953	2019	66:0	28,147	34.0	28,147	34.0	28,147	28,147
1954	2020	66:0	28,361	34.5	28,361	34.5	28,934	28,934
1955	2021	66:2	28,877	34.7	28,877	34.7	29,867	29,867
1956	2022	66:4	28,341	33.8	28,341	33.8	29,648	29,648
1957	2023	66:6	28,238	33.4	28,238	33.4	29,845	29,845
1960	2027	67:0	27,389	33.1	27,389	33.1	31,212	31,212
1965	2032	67:0	27,785	33.5	27,785	33.5	33,757	33,757
1970	2037	67:0	28,015	33.8	22,182	26.8	36,220	28,680
1975	2042	67:0	28,128	33.9	22,185	26.7	38,560	30,412
1980	2047	67:0	28,184	34.0	22,458	27.1	40,947	32,628
1985	2052	67:0	28,108	33.9	22,489	27.1	43,384	34,711
1990	2057	67:0	28,070	33.8	22,310	26.9	46,051	36,601
1995	2062	67:0	28,081	33.8	21,990	26.5	48,949	38,331
2000	2067	67:0	28,135	33.9	21,676	26.1	52,024	40,081
2005	2072	67:0	28,189	33.9	21,362	25.7	55,221	41,848
2010	2077	67:0	28,231	34.0	21,186	25.5	58,527	43,920
2015	2082	67:0	28,260	34.0	21,274	25.6	61,963	46,645
2020	2087	67:0	28,269	34.0	21,397	25.7	65,543	49,610
2025	2092	67:0	28,262	34.0	21,270	25.6	69,308	52,160
<b>Steady maximum earnings: (Career-average earnings for 2018 equal \$127,061<sup>f</sup>)</b>								
1953	2019	66:0	34,383	27.1	34,383	27.1	34,383	34,383
1954	2020	66:0	34,656	27.4	34,656	27.4	35,355	35,355
1955	2021	66:2	35,303	27.6	35,303	27.6	36,513	36,513
1956	2022	66:4	34,691	26.9	34,691	26.9	36,291	36,291
1957	2023	66:6	34,587	26.6	34,587	26.6	36,556	36,556
1960	2027	67:0	33,721	26.4	33,721	26.4	38,428	38,428
1965	2032	67:0	34,242	26.7	34,242	26.7	41,601	41,601
1970	2037	67:0	34,529	26.9	27,341	21.3	44,642	35,348
1975	2042	67:0	34,645	27.0	27,324	21.3	47,493	37,457
1980	2047	67:0	34,722	27.0	27,668	21.5	50,445	40,197
1985	2052	67:0	34,590	27.0	27,675	21.6	53,389	42,716
1990	2057	67:0	34,481	27.0	27,405	21.5	56,568	44,959
1995	2062	67:0	34,453	27.1	26,980	21.2	60,058	47,030
2000	2067	67:0	34,496	27.1	26,577	20.9	63,786	49,143
2005	2072	67:0	34,564	27.2	26,194	20.6	67,711	51,313
2010	2077	67:0	34,619	27.2	25,979	20.4	71,769	53,858
2015	2082	67:0	34,658	27.2	26,090	20.5	75,991	57,205
2020	2087	67:0	34,672	27.2	26,244	20.6	80,390	60,847
2025	2092	67:0	34,666	27.2	26,089	20.5	85,012	63,979

<sup>a</sup> The table uses four hypothetical “scaled” earnings levels and a hypothetical worker who earns the taxable maximum each year. See Actuarial Note Number 2019.3 at [www.ssa.gov/OACT/NOTES/ran3/an2019-3.pdf](http://www.ssa.gov/OACT/NOTES/ran3/an2019-3.pdf) for more information.

<sup>b</sup> CPI-indexed dollar adjustment uses the adjusted CPI indexing series shown in table VI.G6 of the 2019 OASDI Trustees Report.

<sup>c</sup> Born on January 2nd of year.

<sup>d</sup> Wage-indexed dollar adjustment uses the national average wage indexing series shown in table VI.G6 of the 2019 OASDI Trustees Report.

<sup>e</sup> Computed using nominal dollars.

<sup>f</sup> Average of highest 35 years of wage-indexed earnings through the year prior to retirement. The value is for retirement in 2019. Thus, the annual earnings used for this average are wage-indexed to 2018.

**Table D—Historical Benefits and Replacement Rates for Hypothetical Retired Workers<sup>a</sup>  
in their First Year of Benefit Receipt**  
(based on intermediate assumptions of the 2019 OASDI Trustees Report)

Year of birth <sup>b</sup>	Year attain age 65	Benefit Amounts for Workers Retiring at 62		Benefit Amounts for Workers Retiring at 65		Benefit Amounts for Workers Retiring at NRA			
		Wage-indexed 2019 dollars <sup>c</sup>	Percent of career-average earnings <sup>d</sup>	Wage-indexed 2019 dollars <sup>c</sup>	Percent of career-average earnings <sup>d</sup>	NRA	Wage-indexed 2019 dollars <sup>c</sup>	Percent of career-average earnings <sup>d</sup>	
<b>Scaled very low earnings:</b>									
1875	1940	e	e	\$5,409	42.0	65:0	\$5,409	42.0	
1880	1945	e	e	3,304	25.7	65:0	3,304	25.7	
1885	1950	e	e	4,743	36.2	65:0	4,743	36.2	
1890	1955	e	e	9,365	72.7	65:0	9,365	72.7	
1895	1960	e	e	9,194	71.0	65:0	9,194	71.0	
1900	1965	\$6,991	54.6	8,764	66.3	65:0	8,764	66.3	
1905	1970	6,375	50.1	9,177	71.5	65:0	9,177	71.5	
1910	1975	7,354	60.1	10,422	83.2	65:0	10,422	83.2	
1915	1980	8,614	68.0	11,260	91.1	65:0	11,260	91.1	
1920	1985	8,196	64.4	9,747	75.5	65:0	9,747	75.5	
1925	1990	8,273	65.5	10,313	80.1	65:0	10,313	80.1	
1930	1995	8,222	64.4	10,382	80.2	65:0	10,382	80.2	
1935	2000	8,074	63.6	9,193	72.0	65:0	9,193	72.0	
1940	2005	8,388	63.1	10,056	77.4	65:6	10,617	80.3	
1945	2010	7,693	59.9	10,051	76.4	66:0	10,468	80.2	
1950	2015	7,901	60.7	9,528	73.2	66:0	10,089	75.8	
<b>Scaled low earnings:</b>									
1875	1940	e	e	7,122	30.8	65:0	7,122	30.8	
1880	1945	e	e	5,942	25.6	65:0	5,942	25.6	
1885	1950	e	e	7,622	32.2	65:0	7,622	32.2	
1890	1955	e	e	11,763	50.8	65:0	11,763	50.8	
1895	1960	e	e	10,969	47.0	65:0	10,969	47.0	
1900	1965	8,309	36.1	10,544	44.3	65:0	10,544	44.3	
1905	1970	7,759	33.9	10,919	47.3	65:0	10,919	47.3	
1910	1975	9,242	42.0	13,480	59.8	65:0	13,480	59.8	
1915	1980	11,049	48.4	14,829	66.7	65:0	14,829	66.7	
1920	1985	11,928	52.1	14,213	61.1	65:0	14,213	61.1	
1925	1990	10,877	47.9	13,525	58.4	65:0	13,525	58.4	
1930	1995	10,794	46.9	13,607	58.4	65:0	13,607	58.4	
1935	2000	10,554	46.2	12,034	52.4	65:0	12,034	52.4	
1940	2005	10,976	45.9	13,164	56.3	65:6	13,900	58.4	
1945	2010	10,050	43.5	13,153	55.5	66:0	13,712	58.3	
1950	2015	10,340	44.1	12,457	53.2	66:0	13,198	55.1	
<b>Scaled medium earnings:</b>									
1875	1940	e	e	12,305	23.9	65:0	12,305	23.9	
1880	1945	e	e	8,527	16.5	65:0	8,527	16.5	
1885	1950	e	e	9,994	19.0	65:0	9,994	19.0	
1890	1955	e	e	15,402	29.9	65:0	15,402	29.9	
1895	1960	e	e	15,163	29.3	65:0	15,163	29.3	
1900	1965	12,526	24.5	15,447	29.2	65:0	15,447	29.2	
1905	1970	11,902	23.4	16,874	32.9	65:0	16,874	32.9	
1910	1975	14,572	29.8	20,620	41.2	65:0	20,620	41.2	
1915	1980	17,972	35.6	24,484	49.7	65:0	24,484	49.7	
1920	1985	17,896	35.2	21,379	41.5	65:0	21,379	41.5	
1925	1990	17,986	35.6	22,385	43.5	65:0	22,385	43.5	
1930	1995	17,715	34.7	22,443	43.3	65:0	22,443	43.3	
1935	2000	17,399	34.3	19,857	38.9	65:0	19,857	38.9	
1940	2005	18,079	34.0	21,694	41.7	65:6	22,902	43.3	
1945	2010	16,557	32.2	21,699	41.2	66:0	22,611	43.3	
1950	2015	17,014	32.7	20,547	39.5	66:0	21,772	40.9	
<b>Scaled high earnings:</b>									
1875	1940	e	e	14,784	17.9	65:0	14,784	17.9	
1880	1945	e	e	10,525	12.8	65:0	10,525	12.8	
1885	1950	e	e	12,196	14.5	65:0	12,196	14.5	
1890	1955	e	e	19,285	24.1	65:0	19,285	24.1	
1895	1960	e	e	19,034	24.9	65:0	19,034	24.9	
1900	1965	14,095	19.8	18,268	24.8	65:0	18,268	24.8	
1905	1970	13,070	19.5	19,425	28.6	65:0	19,425	28.6	

**Table D—Historical Benefits and Replacement Rates for Hypothetical Retired Workers<sup>a</sup>  
in their First Year of Benefit Receipt (Cont.)**

*(based on intermediate assumptions of the 2019 OASDI Trustees Report)*

Year of birth <sup>b</sup>	Year attain age 65	Benefit Amounts for Workers Retiring at 62		Benefit Amounts for Workers Retiring at 65		NRA	Benefit Amounts for Workers Retiring at NRA	
		Wage-indexed 2019 dollars <sup>c</sup>	Percent of career-average earnings <sup>d</sup>	Wage-indexed 2019 dollars <sup>c</sup>	Percent of career-average earnings <sup>d</sup>		Wage-indexed 2019 dollars <sup>c</sup>	Percent of career-average earnings <sup>d</sup>
1910	1975	\$16,151	26.0	\$24,058	37.5	65:0	\$24,058	37.5
1915	1980	21,095	33.2	30,118	48.2	65:0	30,118	48.2
1920	1985	21,518	32.7	25,964	38.6	65:0	25,964	38.6
1925	1990	22,210	32.4	27,821	39.5	65:0	27,821	39.5
1930	1995	22,546	30.7	28,631	38.1	65:0	28,631	38.1
1935	2000	22,619	29.3	25,826	33.0	65:0	25,826	33.0
1940	2005	23,898	28.4	28,660	34.8	65:6	30,247	36.1
1945	2010	21,989	26.7	28,740	34.1	66:0	29,942	35.8
1950	2015	22,592	27.1	27,226	32.7	66:0	28,843	33.8
<b>Steady maximum earnings:</b>								
1875	1940	e	e	22,267	16.4	65:0	22,267	16.4
1880	1945	e	e	13,803	10.1	65:0	13,803	10.1
1885	1950	e	e	13,466	9.7	65:0	13,466	9.7
1890	1955	e	e	19,285	15.0	65:0	19,285	15.0
1895	1960	e	e	19,195	16.1	65:0	19,195	16.1
1900	1965	14,095	13.1	18,268	16.5	65:0	18,268	16.5
1905	1970	13,070	13.5	19,835	20.3	65:0	19,835	20.3
1910	1975	16,151	19.4	24,795	28.7	65:0	24,795	28.7
1915	1980	21,839	27.9	32,012	40.6	65:0	32,012	40.6
1920	1985	22,029	29.9	27,619	34.7	65:0	27,619	34.7
1925	1990	23,301	30.0	30,103	35.7	65:0	30,103	35.7
1930	1995	24,126	27.8	31,437	33.5	65:0	31,437	33.5
1935	2000	24,766	25.9	28,930	28.6	65:0	28,930	28.6
1940	2005	26,758	24.5	32,891	29.3	65:6	34,722	30.2
1945	2010	25,467	22.2	33,983	28.0	66:0	35,688	29.3
1950	2015	26,944	21.9	32,951	26.1	66:0	35,076	27.1

<sup>a</sup> The table uses four hypothetical “scaled” earnings levels and a hypothetical worker who earns the taxable maximum each year. See Actuarial Note Number 2019.3 at [www.ssa.gov/OACT/NOTES/ran3/an2019-3.pdf](http://www.ssa.gov/OACT/NOTES/ran3/an2019-3.pdf) for more information.

<sup>b</sup> Born on January 2nd of year.

<sup>c</sup> Wage-indexed dollar adjustment uses the national average wage indexing series shown in table VI.G6 of the 2019 OASDI Trustees Report.

<sup>d</sup> Computed using nominal dollars.

<sup>e</sup> Benefit at age 62 not available for these years of birth.