Forecasted Social Security Payouts as Affected by AI and Robotics

Exercise 5 • Forecast Horizon: 2027–2046 • Baseline: 2026

Prepared: April 2026 • Annual Social Security payout by lifetime earnings quintile, adjusted for AI/robotics-driven payroll tax erosion

Assumptions & Method

This forecast applies two governing assumptions to project Social Security payout levels from 2027 to 2046:

Assumption 1 — Proportional funding: Since approximately 90% of each year's Social Security payouts are funded by that year's payroll tax collections, if future payroll tax collections are X% of the 2026 baseline, then payouts in that year will likewise be X% of 2026 levels.

Assumption 2 — No deficit borrowing: Given the current U.S. debt trajectory, this exercise does not allow the government to supplement declining payroll tax income with borrowed funds. Payouts decline in strict proportion to income.

Method: Each year's forecasted payout = 2026 quintile payout × that year's Exercise 4 income percentage. The Exercise 4 percentages reflect AI/robotics displacement applied to the 18 NAICS supersectors in Exercise 1, weighted by each sector's payroll tax contribution.

Forecasted Annual Social Security Payout by Lifetime Earnings Quintile (2026–2046)

Dollar amounts shown are annual payouts per individual in each quintile. Color shading reflects the degree of reduction from the 2026 baseline: pale yellow (modest decline) through deep red (severe decline).

Quintile	Quintile Description	Lifetime Earnings (35-Year Covered)	2026 Annual Payout	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
1	$0	$0	**$0**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	> $0 and < $500K	> $0 – < $500K	**$8,000**	$8,000	$7,960	$7,848	$7,672	$7,440	$7,144	$6,800	$6,424	$6,032	$5,648	$5,272	$4,928	$4,640	$4,448	$4,344	$4,296	$4,272	$4,256	$4,248	$4,248
3	>= $500K < $1.5M	$500K – $1.5M	**$21,000**	$21,000	$20,895	$20,601	$20,139	$19,530	$18,753	$17,850	$16,863	$15,834	$14,826	$13,839	$12,936	$12,180	$11,676	$11,403	$11,277	$11,214	$11,172	$11,151	$11,151
4	>= $1.5M < $3M	$1.5M – $3M	**$34,000**	$34,000	$33,830	$33,354	$32,606	$31,620	$30,362	$28,900	$27,302	$25,636	$24,004	$22,406	$20,944	$19,720	$18,904	$18,462	$18,258	$18,156	$18,088	$18,054	$18,054
5	>= $3M	> $3M	**$45,000**	$45,000	$44,775	$44,145	$43,155	$41,850	$40,185	$38,250	$36,135	$33,930	$31,770	$29,655	$27,720	$26,100	$25,020	$24,435	$24,165	$24,030	$23,940	$23,895	$23,895

Key Findings

No change in 2027: The 2027 forecast is identical to the 2026 baseline because AI/robotics displacement has not yet meaningfully reduced payroll tax income in the first year.

Quintile 1 is unaffected in dollar terms: Individuals with zero lifetime covered earnings receive $0 in 2026 and continue to receive $0 throughout the forecast period — their own-record benefit is unchanged at zero, though many in this group receive spousal or survivor benefits not captured here.

The most severe absolute dollar losses fall on Quintile 5: Higher earners lose the largest absolute dollar amounts. By 2046, Quintile 5 recipients see annual payouts fall from $45,000 to approximately $23,895 — a reduction of $21,105 per year. Quintile 4 falls from $34,000 to $18,054, a loss of $15,946 per year.

The steepest proportional period is 2032–2040: All quintiles lose roughly 44 percentage points of their 2026 payout value during this eight-year window, as AI displaces knowledge work and robotics begins displacing physical labor simultaneously.

Terminal floor at ~53%: By 2041, payouts plateau at approximately 53.1% of 2026 levels and remain there through 2046. This represents the terminal displacement state modeled in Exercise 2. Quintile 2 stabilizes at ~$4,248/year; Quintile 3 at ~$11,151; Quintile 4 at ~$18,054; Quintile 5 at ~$23,895.

Policy implication: Under these assumptions, a Quintile 3 recipient who today relies on $21,000/year in Social Security income would by 2039 receive only $12,180 — below the federal poverty threshold for individuals. The lower quintiles face acute income adequacy failure well before the 2046 terminal state is reached.

Important Caveats

[1] **Own-record benefits only:** Figures represent own-record retired-worker benefits derived from lifetime covered earnings. Spousal and survivor benefits are excluded and would increase effective payouts for Quintiles 1 and 2 in particular.

[2] **Gross displacement, no new job credit:** The underlying Exercise 2 forecast models gross displacement only. New jobs created by AI and robotics industries are excluded. Net employment — and net payroll tax income — will be less severe than shown.

[3] **No COLA applied:** Per exercise instructions, cost-of-living adjustments are excluded. In practice, COLAs would be applied to the already-reduced benefit base, partially preserving real purchasing power within the reduced nominal amounts shown.

[4] **No wage growth adjustment:** Productivity gains from AI may raise wages for remaining workers, increasing per-worker payroll tax contributions and partially offsetting the employment-level decline shown in Exercise 4.

[5] **Government policy response excluded:** This is a mechanical projection of one specific scenario. Real policy responses — benefit formula changes, payroll tax rate increases, retirement age adjustments, or new revenue sources — are not modeled.

Source Artifacts

1. Exercise 1 — Current U.S. Private Sector Adult Employment (2026 Baseline)
2. Exercise 2 — Forecasted U.S. Private Sector Adult Employment Impacted by AI and Robotics
3. Exercise 3 — Average 2026 Social Security Payout by Quintile
4. Exercise 4 — Forecasted Social Security Income Percent