The Economic Value of Americans Working One More Year: Technical Documentation

June 2026

Anup Malani, PhD, JD, Chief Economist, Centers for Medicare & Medicaid Services
Virat Agrawal, PhD, Scholar, USC Schaeffer Institute for Public Policy & Government Service
Dana Goldman, PhD, Founding Director, USC Schaeffer Institute for Public Policy & Government Service

THE BASIC EQUATION

Let V be the annual value of delaying retirement by one year for the full marginal cohort:

$$V = N \times [(GDP \div W) + (\tau \times \delta)]$$

where

- N = 3.8 million—annual flow of labor force exits associated with retirement
- GDP ÷ W = $230,000—2026 GDP per FTE employee, including a conservative 4% adjustment for unmeasured welfare
- τ = $38,200—per-beneficiary Social Security transfer after accounting for the actuarial increase in future Social Security benefits earned by the worker through the delayed-retirement credit, plus Medicare spending, adjusted for recoveries, timing shifts and premiums
- δ = 0.67—deadweight loss (DWL) per dollar of incremental tax revenue raised to fund τ, calibrated to incorporate Feldstein's labor-supply elasticity and the Akcigit-Jones innovation channel

plugging in

$$V = 3.8M \times (\$230K + \$38.2K \times 0.67) = 3.8M \times (\$230K + \$25.6K)$$
$$= 3.8M \times \$255.6K \approx \$971 \text{ billion.}$$

WHERE THE NUMBERS COME FROM*

GDP of $230,000 per FTE employee. The Congressional Budget Office (CBO) projects a nominal GDP of $32.3 trillion in 2026.[4] For a productivity calculation, the right denominator is FTE employees, so a worker with two jobs counts once and a half-time worker counts as half. Headcount would inflate the denominator and understate output per worker. The Bureau of Economic Analysis (BEA) publishes FTE employment; the latest annual estimate is approximately 145 million FTEs in 2024.[5] Applying CBO's projected average labor-force growth of 0.4% per year yields an estimated 146 million FTE in 2026, implying $221,000 in GDP per FTE.[4]

We then add a conservative 4% adjustment for unmeasured welfare. Brynjolfsson et al. estimate that the consumer welfare generated by free and new digital goods is between 2% and 4% of GDP—welfare that is excluded from national income accounts by construction, not captured by BEA measurement error.[6] This is a welfare-accounting supplement to GDP, not a correction to the production accounts. Applying 4% adjustment raises GDP per FTE from $221,000 to $230,000.

We do not add a further markup for knowledge spillovers. Economic growth theory holds that experienced workers generate spillovers that are not captured in their own wages, and Jones formalizes this channel.[7, 8, 9, 10] A spillover markup is defensible, but we omit it to keep the estimate conservative and to avoid possible double counting, since some spillover benefits may already appear in other workers' measured output.

Retirement exits. The Social Security Administration (SSA) reports approximately 3.3 million to 3.7 million new retired-worker benefit awards per year over 2022–2024, depending on the precise series and vintage.[11] This is the best directly verifiable figure for new retired-worker awards alone. The true annual labor force exit at retirement ages is somewhat higher, because not every retirement exit is fully captured by retired-worker awards: spousal and survivor beneficiaries who exit the workforce alongside a primary-earning spouse; state and local government employees who retire with non-SSA pensions (approximately 25% to 30% of state and local workers are not covered by SSA); disability-to-retirement conversions that do not appear as new awards; and strategic claim-delayers who retire but have not yet claimed benefits at the ages captured in SSA tables.

Each of these adjustments is directionally correct but difficult to source component by component. Taken together with SSA's baseline, annual labor force exits at retirement ages lie in a range of approximately 3.5 million to 4.0 million. We use 3.8 million as the central estimate—a defensible midpoint rather than a precise measurement. This range is consistent with the demographic pipeline: U.S. births in 1961 were approximately 4.27 million, implying a similar population turning 65 in 2026, of whom most but not all transition out of employment within a year.

* GDP, FTE employees, Social Security benefits and Medicare spending estimates are drawn from CBO projections for 2026. The corresponded numbers cited in an op-ed published in *The Hill* on June 13, 2026, by Goldman and Malani are based on 2025 estimates.

Sixty-seven cents of DWL per dollar of transfer-financing taxes. Feldstein estimated the DWL of the income tax at 30 to 50 cents per dollar of revenue, based on the elasticity of taxable income (ETI) at historical marginal tax rates.[12] Recent research on innovation and taxation supports a substantially higher coefficient for the population on whom retirement-transfer taxes effectively fall.

Akcigit et al. estimate that star inventors' mobility is highly responsive to top marginal tax rates, with elasticities of approximately one.[13] Related work by Akcigit et al. finds elasticities of patenting with respect to tax retention rates of 0.5 to 1.5—much larger than the labor-supply elasticities Feldstein used.[14] Jones formalizes the implication: In a world where ideas drive growth, distortionary taxes on productive workers reduce the stock of ideas that raises everyone else's output, so the welfare cost per dollar of revenue is substantially higher than the Saez-Feldstein consensus.[10] These innovation channels are not captured in Feldstein's ETI framework, which is anchored on labor-supply responses alone.

We set $\delta = 0.67$ as a calibrated central estimate that takes the innovation channel seriously without going to the upper end of what the innovation literature would support. The construction is straightforward: Feldstein's upper bound of 0.50 captures pure labor-supply distortion, and the innovation literature implies an additional 0.15 to 0.25 once the productive margin is properly weighted. A central value of 0.67—approximately two-thirds—lies near the lower end of that combined 0.65 to 0.75 range, a deliberately conservative reading. The innovation literature would support values of 0.75 or higher for the productive margin on whom retirement-transfer taxes fall; we chose 0.67 as the conservative reading that still incorporates the channel rather than ignoring it. The sensitivity is modest, ranging from approximately $947 billion at $\delta = 0.50$ to $983 billion at $\delta = 0.75$ (see FAQ).

Net Social Security plus Medicare benefits of $38,200 per delayed retirement. The latest CBO budget and economic outlook reports average monthly retired-worker benefits of $2,161 in 2026, or about $26,000 annualized.[4] We net this down to $22,000 to reflect the actuarial increase in future Social Security benefits earned by delaying retirement—delayed-retirement credit (DRC), 8% per year past full retirement age, with smaller actuarial increases earlier.[15] The present value of that future-benefit increase can offset approximately $4,000 of the gross $26,000 savings, yielding a net fiscal value of approximately $22,000 per delayed retirement. CBO reports per-beneficiary Medicare spending of approximately $16,200 in 2026, adjusted for recoveries, timing shifts and premiums.[4] The net transfer is approximately $38,200. The figure has a range of plus or minus $2,000 depending on vintage and whether dual-eligible beneficiaries are included.

MINIMAL IMPACT FROM FACTORS THAT MIGHT PUSH THE NUMBER DOWN

Selection on earnings is approximately neutral. Using the RAND Health and Retirement Study (HRS) Longitudinal File (1992–2022, N = 47,033 person-wave observations), the ratio of mean earnings of workers about to retire to mean earnings of all working HRS respondents is 0.94—

marginal retirees earn approximately 6% less than the average still-working 50+ worker.[16] Because HRS covers only ages 50 and older, we benchmark this estimate against the broader workforce using census CPS ASEC data.[17] Table PINC-04 for income year 2022 shows that 50+ workers earn approximately 6.4% above the 25+ economy-wide average (E_{50+}= $88,696, E_{25+} = $83,395). The two effects nearly offset one another: 0.94 × 1.064 ≈ 1.00. The marginal retiree earns approximately the economy-wide average, which validates using the economy-wide GDP per FTE figure for this population without adjustment.

The retirement cohort is near peak and will decline, but productivity growth offsets that decline. The 3.8 million annual flow reflects peak baby-boom cohorts. As smaller Gen X cohorts reach retirement age in the 2030s, the flow declines by roughly 11% over a decade. Real GDP per worker is projected to grow at approximately 1.4% to 1.6% per year on average, which raises output per worker by a comparable amount over the same horizon.[4] The two effects approximately cancel one another. The $971 billion headline holds in real terms through the mid-2030s, conditional on productivity growth staying near its long-run trend.

Not every worker can work longer. Approximately 19% of workers ages 55 to 64 report health-related work limitations.[18] Americans in physically demanding occupations, those with disabilities and individuals with other health limitations may be unable to extend their careers. This is the primary constraint on the delayed-retirement pathway. It is also consistent with the HRS finding that workers on the immediate retirement margin earn less than their still-working peers—the people who leave first are those whose work is harder on the body or whose earning capacity has declined.

Lower-end DWL estimates reduce the number. If one prefers the Saez et al. modern labor-supply-elasticity consensus of 0.15 to 0.25 per dollar of revenue rather than the Feldstein-Akcigit range, the headline drops to approximately $903 billion.[19] We use the higher figure because it reflects the population on whom the tax actually falls—employed, productive Americans at an economic margin—rather than a population-average, labor-supply elasticity that includes many low-elasticity workers.

LONGEVITY EFFECTS OF DELAYED RETIREMENT

This section is ancillary to the headline economic analysis—its findings are not added to the $971 billion figure—but is included to document the longevity claim that appears in the accompanying op-ed.

Empirical specification. Fitzpatrick and Moore use a regression discontinuity design (RDD) on National Center for Health Statistics Multiple Cause of Death data covering 1979–2012, comparing deaths in age-in-months bins on either side of the 62nd birthday.[20] The dependent variable is the count of deaths per age-in-months bin; the running variable is age in months. Mortality is measured as a count of deaths in a one-month window, not as an

annualized hazard rate or a life-years figure. This specification matters for the conversion to life expectancy.

Headline result. Aggregate monthly mortality increases by 1.5% in the month individuals turn 62, driven by a 2% increase in male monthly mortality at the discontinuity. The 2% is a relative percentage increase in monthly death counts, not a two-percentage-point absolute increase. The female effect is smaller and not robust. Among males who actually retire at 62 because of Social Security availability—the local average treatment effect (LATE) among compliers—mortality rises by approximately 20%.

Conversion to life expectancy. The authors themselves perform the conversion. They write: "If we attribute higher male mortality at age 62 to retirement from the labor force, our results suggest that the mortality risks of males who retire upon reaching 62 are elevated by approximately 20 percent once Social Security is available. If these effects persist through to the current Full Retirement Age (FRA) of 66, their life expectancy could decrease by three months as a result."

The three-month figure is the cumulative life-expectancy effect for the marginal male retiree, conditional on the 20% elevated mortality persisting from age 62 to age 66—four years of additional retirement. We adopt this as the authoritative figure and use it in the accompanying op-ed.

Research by economists Maria Fitzpatrick and Timothy Moore finds that men who retire at 62 face about 20% higher mortality than those who keep working, and that delaying retirement to the full retirement age of 66 could add about three months of male life expectancy.[20]

Why not a "per year of work" figure? A naive division of three months across four years of additional retirement would yield approximately 20 days of life expectancy per year of additional work. We do not use this per-year framing. Fitzpatrick and Moore's research design identifies the discontinuity at age 62; it does not estimate a continuous per-year hazard, so the rate of accrual is unknown. The cleanest summary the data support is the cumulative figure for the canonical 62-to-FRA delay—approximately three months.

What the conversion assumes. The three-month figure is conditional on the 20% elevated mortality persisting through age 66. The paper does not directly estimate this persistence; the conversion is a calibrated calculation under the assumption of full persistence. If the elevated mortality reverts before FRA, the life-expectancy effect is smaller; if it persists beyond FRA, the effect is larger.

The female finding. Fitzpatrick and Moore find a smaller and imprecisely estimated mortality effect for women, and they do not translate it into a life-expectancy figure. We follow their lead: The qualitative direction extends to women, but we do not propose a separate quantitative figure.

Generalization beyond age 62. Fitzpatrick and Moore's finding is identified at the age-62 discontinuity. Whether a similar magnitude applies to retirement decisions at later ages (e.g., 65 or 67) is an extrapolation the paper does not directly support. The qualitative result—working longer is associated with lower mortality, especially for men—is replicated in U.S. and European studies, but the magnitude beyond the age-62 cut is not pinned down by this evidence base.

KEY TAKEAWAYS

Each additional year Americans work adds approximately $971 billion to the economy in 2026—approaching $1 trillion. The arithmetic rests on three federal numbers: 3.8 million annual retirement exits, $230,000 in GDP per FTE worker, and an approximately 67-cent DWL on each dollar of tax revenue raised to fund retirement transfers, applied to roughly $38,200 in net Social Security and Medicare benefits per delayed retirement.

The marginal retiree earns roughly the economy-wide average. HRS data from 1992 to 2022, cross-validated against census CPS, show that workers on the retirement margin earn approximately the economy-wide average. The GDP-per-worker figure applies to this population directly.

The headline holds through the demographic transition. Gen X cohorts will pull the annual retirement flow from 3.8 million to approximately 3.4 million by the mid-2030s, but real productivity growth of 1.4% to 1.6% per year over the same decade approximately offsets that drag.[4] The $971 billion real-terms figure holds through the mid-2030s.

Delaying retirement from age 62 to the full retirement age of 66 could add about three months of male life expectancy—a separate benefit to the worker, not added to the $971 billion headline. This finding is per Fitzpatrick and Moore, conditional on a 20% elevated mortality among workers induced to retire at 62 persisting through FRA.[20] This is not a per-year-of-work figure; the research design identifies the cumulative effect of delaying retirement from 62 to FRA.

FAQ

Q: Why doesn't the baseline tax on the working person generate its own DWL term in the comparison? The remaining worker in the comparison (worker 1) pays roughly $25,000 in taxes at their baseline rate in both the treatment and control states—whether they are working alone or alongside a second worker. Whatever baseline distortion that tax causes is present in both states and cancels in the difference. However, this is an approximation. In a joint-filing household, one spouse's retirement can change the household's marginal tax rate and therefore the tax distortion on the remaining spouse's earnings. Only the incremental $38,200

in net taxes required to fund the retirement transfer in the control state is new, and only that incremental burden generates the new DWL the calculation counts.

Q: What about the $25,000 in baseline taxes the retiring worker would have paid if they had kept working? Is there a DWL on that amount that the treatment state "creates"? No. In the control state, the retiring worker pays no tax at all—they are retired. In the treatment state, the individual works and is taxed at baseline. One might worry that the treatment state therefore imposes a new distortion. But the $230,000 figure for the individual's output is already measured as a net of that distortion: It is what they actually produce given the baseline tax rate, not what they would produce in a hypothetical no-tax world. The baseline distortion on the $25,000 in taxes is therefore embedded in the production number, not in need of a separate subtraction. The calculation is clean as written.

Q: Why is the per-beneficiary transfer figure $38,200 rather than the gross $42,200 of Social Security plus Medicare benefits? When a worker delays retirement by one year, they earn a delayed-retirement credit—an 8% permanent increase in future Social Security benefit per year past full retirement age, with smaller actuarial increases earlier.[15] The present value of that future-benefit increase offsets approximately $4,000 of the gross $26,000 annual Social Security benefit. That leaves approximately $22,000 in net Social Security benefits. Adding about $16,200 in Medicare spending per beneficiary gives a net fiscal value to the rest of the economy of approximately $38,200 per delayed retirement. We use the net figure in our calculation because it reflects the present-value tax burden that the rest of the economy actually avoids when retirement is delayed. The $4,000 difference is not lost; it appears as a future obligation to the same retiree, not as a contemporaneous transfer.

Q: What is the fiscal dividend, and how does it relate to the $971 billion headline? Each delayed retirement generates approximately $63,200 in federal fiscal improvement: $25,000 in continued tax contributions from the worker who does not retire, plus $38,200 in net Social Security and Medicare benefits not paid (gross $42,200 less the $4,000 delayed-retirement-credit offset). For 3.8 million workers, that is approximately $240 billion per year—more than one-fifth of annual Medicare spending. The fiscal dividend should not be added to the $971 billion headline without correction. Approximately $95 billion of the $240 billion (the $25,000-per-couple retained tax contribution) is already captured in the $971 billion economic value figure through the government-revenue component of GDP. The remaining $145 billion represents avoided net-transfer payments—a genuine federal fiscal improvement, but a redistribution rather than new economic output. A carefully combined national-benefit total is therefore $971 billion in direct economic value plus $145 billion in non-overlapping fiscal savings, or approximately $1.11 trillion. The cleanest single-number headline remains $971 billion in direct economic value.

Q: What if the DWL coefficient is wrong? The sensitivity is modest. At $\delta = 0.50$ (Feldstein's upper bound directly, without any innovation adjustment), the headline is approximately $947 billion. At $\delta = 0.60$ (a smaller innovation adjustment), the headline is approximately $961 billion. At $\delta = 0.70$ (slightly more aggressive than our central 0.67), the headline is

approximately $976 billion. At δ = 0.75 (the upper end of what the innovation literature supports), the headline is approximately $983 billion. The memo uses 0.67 as a calibrated central estimate.

Q: What if the 4% GDP adjustment is wrong? Without any welfare adjustment, the headline is approximately $937 billion (at GDP per FTE of $221,000). With a 2% adjustment (the lower bound of Brynjolfsson's range), it is approximately $954 billion. With a 4% adjustment (our central estimate), it is $971 billion. The sensitivity is modest.

Q: What if the retirement-exit count is wrong? At 3.5 million exits (the lower bound of our range), the headline is approximately $895 billion. At 4.0 million (the upper bound), it is approximately $1.02 trillion. The 3.8 million central estimate yields $971 billion. A reader who finds the adjustments from SSA's baseline unpersuasive may prefer a lower number; a reader who believes peak-boomer demographics are pulling the labor-force exit rate toward the upper bound may prefer a higher one. Overall, the economic value is roughly $900 billion to $1 trillion.

GLOSSARY[†]

- **BEA** Bureau of Economic Analysis (U.S. Department of Commerce).
- **CBO** Congressional Budget Office.
- **CMS** Centers for Medicare & Medicaid Services.
- **CPS ASEC** Current Population Survey Annual Social and Economic Supplement (Census Bureau).
- **DRC** Delayed retirement credit. The 8% permanent increase in monthly Social Security benefits per year a worker delays claiming past full retirement age (with smaller actuarial increases between early eligibility at age 62 and FRA).
- **DWL** Deadweight loss. The economic welfare lost when a tax distorts behavior — for example, by reducing labor supply, investment, or innovation. The coefficient δ in this paper measures DWL per dollar of revenue raised.
- **ETI** Elasticity of taxable income. The percentage change in taxable income for a 1% change in the after-tax retention rate; the empirical anchor for Feldstein's deadweight-loss estimate.
- **FRA** Full retirement age. The age at which a worker can claim 100% of their Primary Insurance Amount under Social Security; currently 66 to 67 depending on year of birth.
- **FTE** Full-time equivalent (employee). A worker with two jobs counts as one FTE; a half-time worker counts as half. The denominator used for GDP-per-worker calculations.
- **GDP** Gross domestic product.
- **HRS** Health and Retirement Study. A nationally representative panel survey of Americans aged 50 and older, administered by the University of Michigan Institute for Social Research.
- **LATE**. Local average treatment effect. The treatment effect among compliers — those whose behavior is actually changed by the treatment — as opposed to the population-average effect.
- **RDD** Regression discontinuity design. An empirical strategy that identifies causal effects by comparing observations on either side of a sharp threshold in an assignment variable (here, age 62 for Social Security eligibility).
- **SSA** Social Security Administration.

[†] Substantive concepts are defined in the body of the paper at first use; these entries serve as a quick reference to acronyms.

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