

**THE EFFECT OF
USING PRICE INDEXATION INSTEAD OF WAGE INDEXATION
IN CALCULATING
THE INITIAL SOCIAL SECURITY BENEFIT**

Introduction

Social Security today is facing a long-term deficit. In its 2002 Report, the Social Security Board of Trustees¹ estimates that in 2017, the program's income will fall below its outgo, and by 2041, its trust funds will be depleted. At that time, income from FICA taxes and taxes on benefits will be able to pay approximately 73 percent of benefits. Substituting price indexing for wage indexing in the calculation of workers' initial Social Security benefits, a reform offered by the President's Commission to Strengthen Social Security,² would significantly reduce Social Security's long-term deficit. It also would significantly reduce future benefits and fundamentally change the relationship between workers' contributions and the benefits they receive.

Wage indexing is an integral part of the Social Security benefit calculation formula. As it is designed, wage indexing in the initial benefit calculation directly links a worker's career earnings level³ to his or her initial benefit amount.

This ensures that benefits grow in real terms that reflect the increased productivity of each generation, and that the percentage of a worker's preretirement earnings replaced by Social Security remains relatively constant across cohorts.⁴ In contrast, indexing initial benefits to prices rather than wages would maintain the purchasing power of benefits from one generation of beneficiaries to the next; meanwhile, the ratio of initial benefits to preretirement earnings would fall for each successive generation.

This paper examines the effect of price indexing on future workers' initial benefits and replacement rates. Initial benefits would fall relative to current law in each successive year, yet the percent decline in initial benefits would be identical for all income groups retiring in a given year. In this sense at least, price indexing would not unravel Social Security's progressivity.

It is important to note, however, that Social Security replaces a higher percentage of preretirement income for lower-income groups than for higher-income groups. As a result, while the *percent* decline in the replacement rate may be equal for different income groups retiring in the same year, lower-

¹ The Board of Trustees of the Federal Old-Age and Survivors Insurance and the Federal Disability Insurance Trust Funds.

² Discussed in "Strengthening Social Security and Creating Personal Wealth for All Americas," Final Report of the President's Commission for Strengthening Social Security, December 21, 2001.

³ Workers and their employers each pay Federal Insurance Contributions Act (FICA) taxes on 6.2 percent of a worker's Social Security-covered earnings. In 2002, the taxable maximum is

\$84,900; this amount is adjusted annually by the amount of the change in the average wage index.

⁴ This is termed a "replacement rate" and typically refers to the percentage of a worker's preretirement earnings replaced by Social Security benefits.

income groups will experience a greater *percentage point* drop in their replacement rates than will higher-income earners. By this definition, Social Security’s progressivity could be threatened.

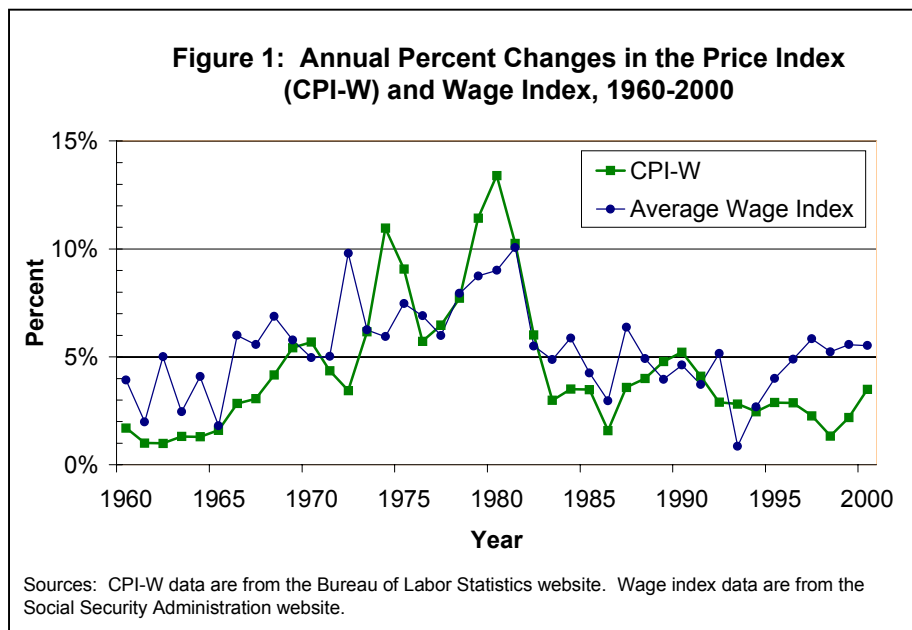
At the same time, reducing benefits could ultimately threaten Social Security’s adequacy as a retirement “base” for many workers, particularly lower earners. Price indexation causes the average replacement rate (benefit as a percent of pre-retirement income) to drop by 50 percent after 75 years and it continues its downward movement over time.

implementation. This would enable policymakers to preserve a meaningful defined benefit for key segments of the population, such as low earners, the disabled, and survivors.

Wage Growth vs. Price Growth

Over the past two decades, wage inflation generally has exceeded price inflation⁵, and projections indicate this pattern will continue (Figure 1).

Over the 75-year actuarial calculation period, the Social Security Administration estimates that average wage inflation will be 4.1 percent—



Benefit cuts, together with measures to increase revenues, may well be necessary in order to put Social Security back on a sound financial footing. Yet price indexation is a particularly blunt instrument for reducing benefits. There are other potential benefit reductions, for example reducing the thresholds and factors in the benefit formula (described below) that are more supple in

exceeding projected price inflation, estimated to be 3.0 percent, by more than a full percentage point.⁶ Thus, replacing the wage inflation rate with the price inflation rate in the benefit

⁵ As measured by the CPI-W.

⁶ 2002 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and the Federal Disability Insurance Trust Funds, Table V.B.1.

calculation formula would slow the growth of initial benefits significantly.

The Current, Wage-Indexed Benefit Calculation Formula

The number on which most initial Social Security disability, survivors, and retirement benefits are based is called the Primary Insurance Amount (PIA). It is reached through a two-step calculation: 1) the Average Indexed Monthly Earnings calculation, and 2) application of the PIA formula rates. Wage indexing is applied in each of these steps.

First, the worker's 35 highest-earning years⁷ are indexed to wage growth⁸, up to the year the worker turns age 60. These wage-indexed annual earnings are then averaged and divided by 35 years, and by 12 months, to get a monthly amount. The result is called the Average Indexed Monthly Earnings (AIME). The AIME expresses a worker's lifetime earnings in terms of today's wage levels.

Second, the worker's PIA is calculated by applying three separate rates to portions of the AIME.

For those who become eligible in 2002, benefits are based on the following formula:

- 90 percent of the first \$592 of AIME, plus
- 32 percent of AIME over \$592 through \$3,567, plus
- 15 percent of AIME above \$3,567.

Thus, if a worker had an AIME of \$3,750 in 2001, the PIA would be:

90% of \$592	\$ 533
32% of next \$593 through \$3,567	952
15% above \$3,567	<u>27</u>

The PIA for this worker is: \$ 1,512

In this formula the rates, 90 percent, 32 percent, and 15 percent do not change from year to year. However, the dollar amounts to which the rates are applied, called "bend points," are adjusted annually based on changes in average wages.⁹ This adjustment assures that Social Security's wage replacement rates remain comparable from year to year for workers with comparable real wage levels. Workers with comparable real earnings histories thus receive initial benefits replacing approximately the same percentage of their earnings, regardless of their nominal value or what year they retired. For example, a worker with lifetime average earnings who retires in 2002 at age 65 receives benefits that replace approximately 42 percent of prior earnings. Each successive generation of average earners will receive about that same replacement

⁷ For Social Security purposes, 40 years is considered a lifetime of work. The benefit formula drops a worker's five lowest earnings years, so that 35 years are used in the final calculation. If a worker does not have 35 years of contributions, the years without earnings are included in the calculation as zeros.

⁸ The application of wage indexing to the average monthly earnings calculation was legislated in 1977 and took effect in 1979.

⁹ Bend points for the year 2002 were determined by multiplying the 1979 bend point amounts by the ratio of the national average wage index for 2000, \$32,154.82, to the wage index for 1977, \$9,779.44. (Results are rounded down to the nearest dollar.) See <http://www.ssa.gov/OACT/COLA/BenForm.html>

rate, even though their lifetime wages and benefits may be higher in dollar terms.

Wage indexation would involve reducing the PIA benefit factors of 90, 32, and 15 percent in each year by a ratio of changes in the CPI to changes in the Average Wage Index.¹⁰

Wage vs. Price Indexing: What Is the Impact on Trust Fund Solvency?

Price indexing the PIA factors in the initial benefit calculation significantly increases the trust fund balance over time, and eventually eliminates the long-term deficit because benefits are reduced significantly. Long-term projections (75 years) by the Social Security trustees in 2002 show that the difference between

¹⁰ Stephen Goss, Deputy Chief Actuary, Social Security Administration, in a memo dated May 3, 1999, to Harry Ballantyne, Chief Actuary of the Social Security Administration, notes that the correct methodology for wage indexing the initial benefit is to multiply the PIA factors of 90, 32, and 15 by the following ratio:

$$\frac{(\text{CPI-W for year-2}) / \text{CPI-W for year-3}}{(\text{AWI for year-2}) / \text{AWI for year-3}}$$

Wage indexation would not affect the first step of the initial benefit calculation—calculation of the worker’s AIME. If wage indexation were implemented starting in 2003 under this methodology, then the second step of the initial benefit calculation would involve applying the new and reduced PIA formula factors to the worker’s AIME, i.e., to his entire earnings history.

An incorrect methodology for wage indexation is to use the CPI, rather than the wage index, to index the PIA bend points and the worker’s career earnings to calculate AIME. This is not an effective method of implementing wage indexation because eventually most of the wages of every worker would fall into the top PIA bracket of 15 percent, eliminating progressivity in the benefit formula.

the summarized income and cost rates for Old Age Survivors Disability Insurance (OASDI) is a deficit of 1.87 percent of taxable payroll.

Wage vs. Price Indexing: Linking the Initial Benefit to Rising Living Standards versus Indexing to Inflation

Indexing the Social Security initial benefit to wage inflation causes the dollar value of initial benefits to rise commensurate with wage growth across the generations. The wage index is one measure of rising living standards, and using the wage index ensures that Social Security’s initial benefit keeps pace with rising living standards. In this way, wage indexation allows workers to participate in the productivity growth in the economy that occurred during their careers, and to which they contributed.

A decision to index initial benefits to the CPI-W across generations would break the links between initial benefits and rising living standards. Instead, “Multiplying the benefit factors by the ratio of the CPI-W increase to the average wage increase each year would cause the PIA to increase by price (CPI-W) change from one generation to the next.”¹¹ This would ensure that future retirees would receive an initial benefit that had been calculated to purchase essentially the same market basket of goods and services, in price-adjusted terms, as current retirees. In other words, under price indexation, the only changes to the initial benefits of future retirees would be to capture any price changes in the items in today’s market basket of goods and services.

¹¹ Goss, 1999, p. 2.

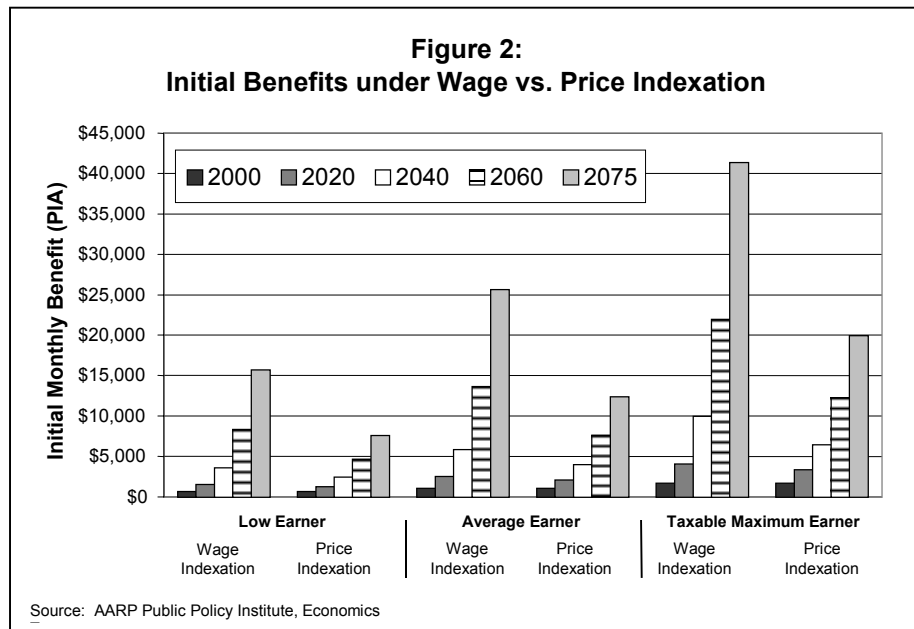
Although rising standards of living might be expected to induce changes in the number and variety of items in the market basket purchased by workers, initial benefits would not be adjusted to reflect such changes. Yet, living standards can change dramatically over time. In 1935, for example, a large share of households did not have indoor plumbing.¹² Thirty years ago, personal computers did not figure prominently in American homes. If today's Social Security benefit had been linked to a market basket from decades ago, current beneficiaries would not be able to enjoy many of today's conveniences and necessities.

It is true that future benefits would be higher than today's benefits, in nominal terms, under price indexation. Still, future nominal benefits under price

indexation would be lower than future nominal benefits under current law (wage indexation)—this is how price indexation achieves benefit reductions and savings for the Social Security system. In real terms, benefit levels would remain constant into the future.

Wage vs. Price Indexing: What Is the Effect on Initial Benefits?

A switch to price indexation means that initial Social Security benefits would rise in nominal terms in the future, but much less than under a policy of wage indexation. This is because the consumer price index generally rises more slowly than the wage index. Although future price and wage levels are difficult to predict, it is possible that benefits payable to future generations would increase at a rate of



¹² Weller, Christian E. 2002. "Shortchanging the Next Generation: Proposed Social Security Cut Would Index Benefits to 2006 Living Standards Level, Eroding Retirement Income for

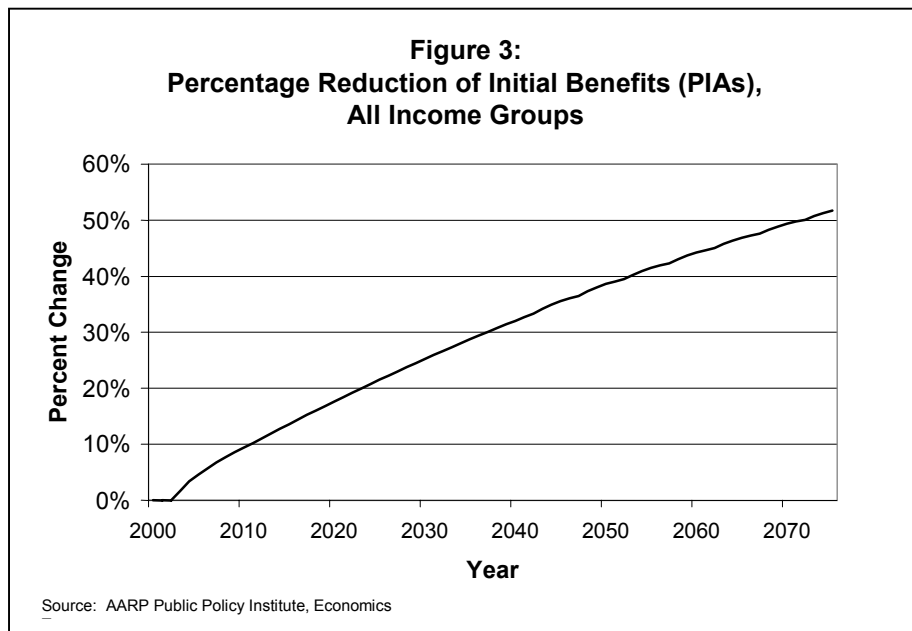
Everyone Thereafter." Economic Policy Institute, Issue Brief #162, p. 2.

nearly 25 percent (1 percentage point) less per year, compared to benefits scheduled under present law.¹³

Figure 2 shows initial benefits (PIAs) under wage indexation and under price indexation for low earners, average earners, and earners who earn the taxable maximum throughout their careers.¹⁴ Under current law (wage

to \$2,428 in 2040 and to only \$7,564 in 2075.

Figure 3 shows in percentages the decline in benefits illustrated in Figure 2. The percent decline in initial benefits is identical for all earnings groups in a given year. For example, if price indexation were to replace wage indexation beginning in



indexation), a low earner’s initial benefits would rise from \$640 in 2000 to \$3,573 in 2040 and to \$15,678 in 2075. If price indexation were implemented in 2003, so that the PIA benefit factors begin to decline in 2003, then the same low earner’s nominal benefits would rise

2003, then by 2010, workers at all income levels would see their initial benefits (PIAs) fall by about 9.3 percent relative to a policy of wage indexation. By 2040, the initial benefits of all workers would be about 32 percent lower than benefits calculated with the wage index. By 2075, a policy of price indexation would reduce the initial benefits of all workers to nearly half that of the wage-indexed initial benefit.

Identical percentage reductions in initial benefits for all income groups means that the relative progressivity of Social Security is retained. However, it is retained based on much reduced initial

¹³ Goss, 1999, p. 1. See also p. 2 and Figure 2.

¹⁴ Low earners are defined as having annual earnings over a working lifetime equal to 45 percent of the national average wage index. Average earners are defined as earnings throughout the worker’s earning years that are equal to the national average wage index. In 2002, the taxable maximum was \$84,900; this amount increases annually by the change in the average wage index.

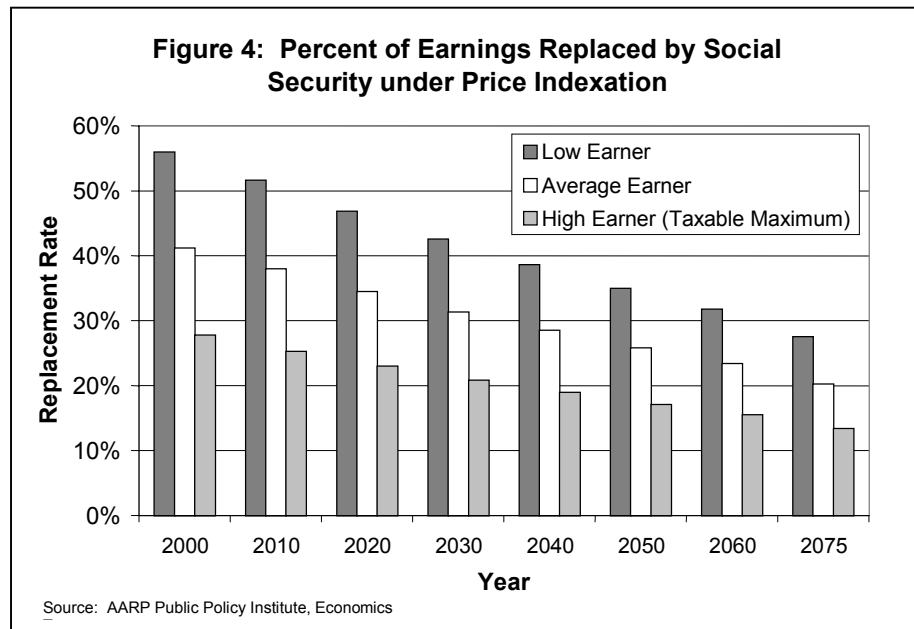
benefits. Over many years the defined benefit part of Social Security would risk becoming irrelevant.

Wage vs. Price Indexing: What Is the Effect on Replacement Rates?

The “replacement rate” is the ratio of a worker’s benefit in the first year of Social Security eligibility to the level of the worker’s covered earnings, either in the year prior to benefit entitlement, or on average over the worker’s career.

higher earnings have a greater ability to protect themselves from financial risk—they are more likely to have private pension income and accumulated savings—than do low- and moderate-income workers who have less opportunity to save and invest.

Linking workers’ initial benefits to the wage index across generations implements Social Security’s current goal of replacing a constant proportion of preretirement income across



Today, Social Security benefits replace about 56 percent of the preretirement earnings of low earners, 42 percent of preretirement earnings for a worker with lifetime earnings equal to the national average, and about 28 percent for those with lifetime earnings at the taxable maximum.¹⁵ The weighting reflects the assumption on the part of those who designed the program that workers with

generations. With the introduction of price indexation, replacement rates would fall for each successive generation.

Figure 4 presents the replacement rates for low earners, average earners, and workers who have earned the taxable maximum throughout their careers, if price indexation were implemented in 2003. The chart shows that replacement rates fall for all income groups under price indexation. By contrast, under wage indexation, replacement rates

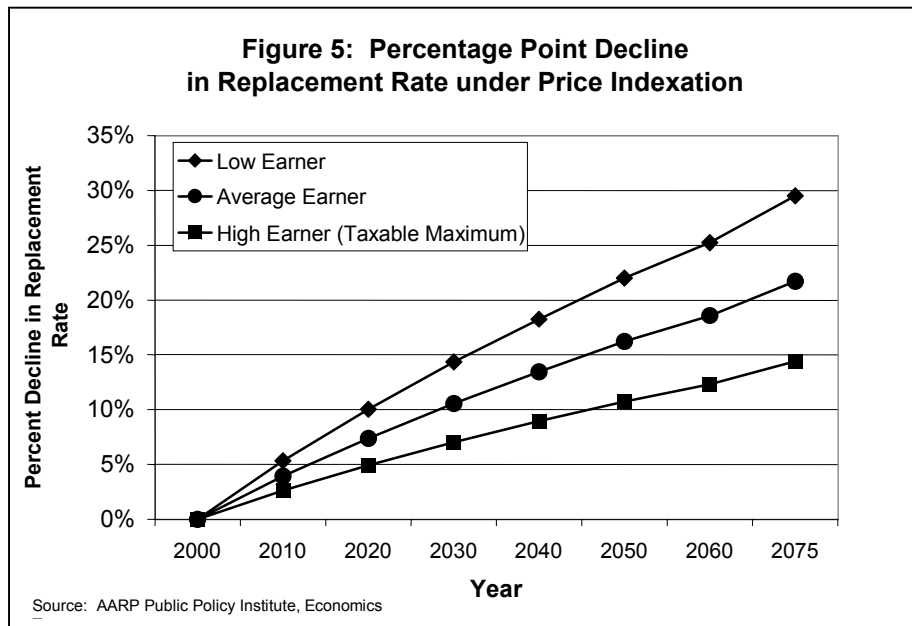
¹⁵ Social Security Administration, *Monthly Information Package*, “Benefit Examples,” September 2001. See footnote 12 for definitions of low, average, and taxable maximum earners.

would remain constant over the entire period at around the same rates shown in Figure 4 for the year 2000, when wage indexation was the prevailing policy.

The percentage drop in replacement rates is identical for all income groups in a given year and is virtually identical to the percentage drop in initial benefits shown in Figure 3, for all income groups. The reason for this is that the initial benefit is the numerator in the calculation of the replacement rate, calculated as the ratio of the initial benefit to earnings in the last year before retirement. Figure 4 also suggests, however, that there is a greater absolute drop in replacement rates for lower earners than for higher earners.

Figure 5 verifies that the decline in replacement rates is greatest for lower-income groups, when the decline is expressed in terms of *percentage points*. This is because lower earners currently enjoy a higher replacement rate than other income groups, so that a given *percentage* decline translates into a

larger *percentage point* reduction. For example, in 2020, replacement rates for all income groups would fall by 17.6 percent relative to current law (wage indexation). For low earners, this translates into a decline of 9.9 percentage points; for average earners, the decline is 7.4 percentage points, and for workers who have earned the taxable maximum consistently throughout their careers, the decline is 4.9 percentage points. By 2075, all income groups experience a 52 percent drop in replacement rates, but for low earners this means a percentage point drop of 30 percentage points (to a replacement rate of 26 percent), compared to a drop of 22 percentage points for average earners (to a replacement rate of 20 percent) and a drop of 15 percentage points for taxable maximum earners (to a replacement rate of 13 percent). Hence, the replacement rates for different income groups narrow dramatically over time. In this respect, price indexation fails to preserve progressivity.



	Current Law Person A retires at age 62 in 2043. Initial Benefits Are Wage Indexed . Annual Benefits COLAed at 3% for 20 years.	COLA minus 1% Person B retires at age 62 in 2043. Initial Benefits Are Wage Indexed . Annual Benefits COLAed at 2% (CPI-1) for 20 years.	Price Indexation Person C retires at age 62 in 2043. Initial Benefits Are Price Indexed . Annual Benefits COLAed at 3% for 20 years.
Year	Benefit Amount	Benefit Amount	Benefit Amount
2043	\$4,062	\$4,062	\$2,672
2045	\$4,310	\$4,226	\$2,835
2050	\$4,996	\$4,666	\$3,286
2055	\$5,792	\$5,152	\$3,809
2060	\$6,714	\$5,688	\$4,416
2062	\$7,123	\$5,918	\$4,685

How Does Price Indexation Compare to a Policy of Reducing the Cost-of—Living Adjustment?

If price indexation were implemented in 2003, over a forty-year career it would produce benefits that are significantly lower than a one-percentage point across-the-board cut in the CPI during retirement.

The reason the price indexed benefit (column 3) is lower than the “COLA minus 1%” benefit (column 2), for both initial and ultimate benefits, is that price indexation affects the worker’s entire 40-year career, while a COLA adjustment only affects 20 or so years of retirement. In both scenarios, indexation is one percentage point lower than current law (this example uses SSA’s assumption that the wage index will outpace the CPI by one percent annually; the comparison is made to a COLA adjustment of “CPI – 1%.”) Under price indexation, the initial benefit is so low that the retiree’s benefit never catches up to the wage-indexed benefits, even with full COLA indexation during retirement.

Conclusion

All of the options for improving Social Security’s long-term solvency entail

costs. The question that must be answered when considering price indexation (either by itself or in combination with other options) is whether solvency should be achieved at the price of altering Social Security’s basic wage replacement function, and fundamentally changing the relationship between workers’ contributions and the benefits they receive. In every year in the future, price indexation would reduce Social Security’s benefit as a percent of pre-retirement wages.

There are other options for reducing the traditional Social Security benefit, such as changing the factors in the benefit calculation formula, that could achieve needed cost savings. Yet this second type of benefit reduction is more subtle: it is versatile enough to preserve the traditional system, and ensure adequate benefits for low earners, the disabled, or survivors.

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