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Memorandum

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TO: Senate Finance Committee
Attention: Democratic Staff

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SUBJECT: "Progressive Price Indexing" of Social Security Benefits

As requested, the Congressional Research Service has estimated the effect on future Social Security benefits of "progressive price indexing," as described by the Chief Actuary of the Social Security Administration (SSA).[1] Under current law, initial Social Security benefits increase from one generation to the next at the rate that the national average wage index rises.[2] For each generation of Social Security beneficiaries, their average Social Security benefit exceeds that of the preceding generation by the difference in their *average wage*. In other words, initial Social Security benefits are *wage indexed*. Once enrolled in the program, beneficiaries' Social Security checks increase each year at the same rate as the Consumer Price Index (CPI) so that they do not decline in value as prices rise over time; i.e., they are *price indexed*. Due to increases in worker productivity, wages tend to rise faster than prices when measured over long periods of time. Consequently, if initial benefits were based on the rate at which prices rise rather than the rate at which wages rise, initial benefits for each succeeding generation of workers would grow more slowly than under current law.

Under progressive price indexing, initial benefits for *low-wage* workers would continue to be based on the rate of growth of the national average wage index (AWI). Initial Social Security benefits would continue to be fully "wage-indexed" for these workers. Initial benefits for *high-wage* workers would be based on the rate of growth of the CPI. Social Security benefits would be fully "price-indexed" for these workers. Benefits for *average-wage* workers would be based partly on the rate of growth of the national average wage

[1] Memorandum from Stephen Goss, Chief Actuary of the Social Security Administration to Robert Pozen, Feb. 10, 2005. See [http://www.ssa.gov/OACT/solvency/RPozen_20050210.pdf]. The SSA analysis also described a system of individual accounts that, as part of the specific proposal that SSA studied, would accompany price-indexed benefits. This Congressional Research Service (CRS) memorandum discusses only price indexing.

[2] An *index* is a measure of the relative change in a series of values compared with a *base period*. The value of the index during the base period is 100, and changes from it represent percentages.

index and partly on the rate of growth of the Consumer Price Index. Initial Social Security benefits would be partly "wage-indexed" and partly "price-indexed" for these workers.

Measuring the Value of Initial Social Security Benefits over Time. The growth of Social Security benefits over time can be measured against either the rate of growth of prices or wages. If benefits grow faster than the rate at which *prices* rise, the benefits increase in *purchasing power*, and future retirees will enjoy higher standards of living than today's retirees. If benefits grow at the same rate as prices, purchasing power is unchanged, and future retirees will be able to maintain a standard of living similar to that of today's retirees. Benefit levels that grow more slowly than the rate at which prices rise will decline in purchasing power, resulting in falling standards of living for future retirees. Under current law, benefits for each generation of workers grow at the same rate as their wages grow. Consequently, (1) the *purchasing power* of benefits rises from one generation of workers to the next, and (2) the *replacement rate* — initial benefits as a percentage of workers' career-average earnings — remains constant for each successive generation of workers. If initial benefits were to rise at the same rate as *prices* increase, (1) the *purchasing power* of benefits would remain constant for each successive generation of workers, and (2) *replacement rates* would fall.

Social Security Retirement Benefits under Current Law. Workers who have completed at least 40 quarters of employment covered by Social Security can begin receiving reduced Social Security retirement benefits as early as age 62 or full benefits at the full retirement age (65 and 6 months in 2005).[3] The monthly benefit amount payable to a worker upon retirement at the full retirement age is called the *Primary Insurance Amount* (PIA). The PIA is based on the worker's annual earnings up to the maximum taxable amount, averaged over a period of 35 years. In 2005, earnings up to $90,000 are taxable. This amount — also called the *taxable wage base* — increases each year at the rate of growth of the national average wage index. The PIA is computed in three steps:

Step 1: Indexing Earnings. The worker's annual earnings in each year after 1950 are *indexed* to the second calendar year before the year in which he or she was first eligible for retirement benefits; i.e., before age 62. This is called the *indexing year*. Earnings at age 60 or later are not indexed but instead are counted at their nominal value.[4] For workers who are applying for Social Security retirement benefits, earnings in all years up to age 60 are indexed to growth in the national average wage. Specifically, earnings in each past year are indexed by multiplying them by the ratio of the national average wage for the indexing year to the national average wage in the year the income was earned.

Step 2: Determining AIME. Since 1979, Social Security benefits have been based on *average indexed monthly earnings* (AIME). The worker's average indexed monthly earnings are the average of his or her highest 35 years of indexed earnings. Earnings at age 60 or later are not indexed, but they are included in the AIME calculation if they are among the worker's highest 35 years of earnings.

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[3] The full retirement age is 65 for those born before 1938, 67 for those born in 1960 or later, and between 65 and 67 for people born between 1938 and 1960.

[4] Earnings are indexed only up to age 60 because it can take up to two years for the national earnings data on which the wage indexing series is based to become available.

Step 3: Computing the PIA. To calculate the worker's PIA, his or her career-average earnings (AIME) are divided into three brackets and multiplied by benefit factors (90%, 32%, and 15%) that are set in law for each bracket. The factors decline as the earnings brackets rise, so that Social Security replaces a higher proportion of career-average earnings for workers with relatively low earnings than it does for high-wage workers. The dollar amounts that define the boundaries of the brackets — called "bend points" — increase each year by the rate of growth of the national average wage.[5] This keeps the proportion of average earnings multiplied by each factor the same from year to year. For workers who reach age 62 in 2005, the PIA is:

> **90%** of the first **$627** of average indexed monthly earnings, plus
> **32%** of the next **$3,152** of average indexed monthly earnings, plus
> **15%** of average indexed monthly earnings over **$3,779**.

Earnings are *wage-indexed* only up to age 60, but the PIA is adjusted to reflect changes in *price levels* after age 62. If the individual claims retirement benefits between age 62 and the full retirement age, the PIA is increased by the percentage change in the CPI between age 62 and the full retirement age.

The National Average Wage Index. The Social Security Administration determines the national average wage each year based on the earnings reports it receives from employers. The annual values of the average wage index are used to calculate the factors for indexing earnings up to age 60. The annual *percentage change* in the average wage index is used to determine the percentage increase in the *bend points* in the PIA formula.

The Social Security Amendments of 1977. The *Social Security Amendments of 1977* (P. L. 95-216) created the current benefit formula, which is based on the worker's *average indexed monthly earnings* (AIME). This law also indexed the "bend points" that separate the earnings brackets in the benefit formula to the rate of increase in the average wage index. The 1977 amendments set the three "PIA factors" that are applied to earnings within each bracket at 90% of AIME up to the first bend point ($180 in 1979; $627 in 2005); 32% of AIME between the first and second bend points ($1,085 in 1979; $3,779 in 2005); and 15% of AIME above the second bend point. The two elements of the Social Security benefit formula adopted in 1977 that keep replacement rates constant for each successive generation of retirees are that: (1) the PIA factors applied to each earnings bracket *remain unchanged* from year to year, and (2) the *bend points* in the formula for determining the PIA are i*ndexed to increases in the national average wage*. Indexing *past earnings* — which is part of the computation of AIME — has little effect on replacement rates over time. Indexing past earnings to current values mainly affects the distribution of benefits *within* each cohort of workers rather than the relative size of benefits among successive cohorts of workers.[6]

How Indexing *Earnings Histories* Affects Benefits. Until the 1977 amendments were enacted, Social Security benefits were based on workers' *nominal* career-average earnings. Using nominal earnings histories had the effect of treating workers differently based on which years they had worked and when their highest earnings had occurred.

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[5] The amounts at which the PIA factors change are called *bend points* because when the PIA factors are graphed against the AIME, the graph appears as three lines joined at these points.

[6] A "cohort" is a group of people with a common demographic trait, such as their year of birth.

Indexing workers' earnings histories to more current values reduces the difference in Social Security benefits among workers whose ages and *real* earnings are similar, but whose years of employment differed. For example, consider two workers of the same age claiming benefits in the same year, both of whom worked for a total of 35 years doing the same job. Worker "A" worked 35 years from age 30 to 65, while worker "B" worked 35 years from age 20 to 55. Calculating average career earnings without indexing would be advantageous to worker A, whose earnings occurred more recently and would be higher in *nominal* terms than worker B's earnings. There is, however, no reason why worker A's 35 years of earnings should be valued more highly than workers B's 35 years of earnings when calculating their Social Security benefits unless they also are higher in *real* terms. By expressing the past earnings of workers who retire in the same year in amounts that are more directly comparable to each other, indexing past wages to current values eliminates a disadvantage that otherwise would under-value the earnings of workers who either worked more or earned more early in their careers.

Basing benefits on nominal earnings also had the effect of depressing the benefits of retired-worker beneficiaries relative to disabled workers and survivors of workers who had died while still young. Because benefits for disabled workers and the survivors of younger workers are based on relatively short earnings histories, they are based on more current earnings than those of retired workers. The relative disadvantage to retired workers of including many years of earnings from the more distant past is mitigated by indexing those earnings so that they are expressed in terms of their current value in the labor market.

If past earnings were indexed to the present based on the growth of a price index (such as the CPI) instead of the growth in the average wage index (AWI), workers' average indexed monthly earnings would be lower, as would the amount of their Social Security benefits. This would permanently reduce the *amount* of future Social Security benefits, but it would not permanently reduce the *rate of growth* of future benefits. Indexing past earnings to current values based on the rate of growth of the CPI would reduce the rate of growth of benefits only during the period of transition from wage-indexing to price indexing.[7] The amount of benefits paid would be lower in every future year, but after approximately 40 years — at which point all workers' entire earnings histories would be fully price-indexed — the average indexed monthly earnings of each successive cohort of workers would be higher than the average indexed earnings of the previous cohort by the difference in their *average wage*, just as it is under current law.

How Indexing the *Bend Points* Affects Benefits. The percentage of career-average earnings replaced by Social Security is called the *replacement rate*.[8] Under the

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[7] During the transition period from the 1970s to the 1990s, when the period over which workers' earnings histories were averaged was lengthened from 21 years to 35 years, indexing workers' earnings histories also contributed to maintaining stable replacement rates. Otherwise, with each year added to the averaging period, a significantly lower (because unindexed) year of earnings would have been added to the benefit computation, thereby tending to make the workers' AIME and PIA lower relative to his or her final earnings. Indexing past earnings converts these lower values into an amount comparable to what they would be worth if they had been earned more recently.

[8] Replacement rates can be measured against *final* earnings or *career-average* earnings. Replacement rates measured against final earnings will almost always be lower than when measured against career-average earnings. Replacement rates measured against *indexed* career-average

(continued...)

current benefit formula, in which initial benefits for each generation of workers grow at the same rate as the national average wage, replacement rates remain *constant* from one generation of workers to the next. The Social Security Administration has estimated the replacement rate under current law to be 55% of average wages for a career-long *low-wage* earner; 41% for a career-long *average-wage* earner, and 27% for a worker who always earned the annual maximum taxable wage. Replacement rates remain stable under current law because: (1) the "bend points" are indexed to *wage growth*, and (2) the PIA factors *remain fixed* from year to year.

If the bend points in the PIA formula were indexed to *prices* (which, in the long run, grow more slowly than wages), replacement rates would *decline* because as wages grow over time, more of workers' earnings would be included in the upper two brackets of the benefit formula, to which lower PIA factors are applied. Eventually, workers would find most of their career-average earnings in the top bracket, and the replacement rate would be nearly the same for all workers, regardless of their average earnings. The benefit formula would be less progressive than under current law.

How Indexing the *PIA Factors* Would Affect Benefits. Another way to "price-index" initial benefits — rather than indexing *past earnings* or the *bend points* to price increases — would be to *reduce the PIA factors* each year by the ratio of the Consumer Price Index to the Average Wage Index. If the PIA factors were reduced each year by the ratio of the consumer price index to the average wage index, then

(1) the *progressivity* of the benefit formula would be ***maintained***,
(2) the *purchasing power* of benefits would be ***maintained*** because benefits would grow at the same rate as prices,
(3) *replacement rates* would ***fall*** for each succeeding generation of workers.

Recommendation's of the 2001 President's Commission. In 2001, President Bush appointed a commission to recommend policy options for restoring Social Security to long-term fiscal solvency. The President provided the commission with several guiding principles, including the requirement that the reformed system must include individual accounts. The commission developed three alternative models for reform, all of which incorporated individual accounts. According to the commission's final report, "Model 2" is the one most likely to result in permanent solvency for Social Security, in part because it would index future benefits to the growth rate of *prices* rather than *wages*. The commission argued that, given the age-distribution of the U.S. population, the current wage-indexed benefit formula is fiscally unsustainable.[9] It concluded that if the benefit formula were indexed to grow with prices rather than wages, the system would be put on a path to permanent solvency.

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[8] (...continued)
earnings will almost always be lower than when measured against *nominal* career-average earnings.

[9] The problem is not that a wage-indexed system of benefits is inherently unsustainable, but rather that the future decline in the ratio of workers to retirees in the United States will cause the benefits payable under current law to exceed the income to Social Security from payroll taxes and interest.

The commission's final report recommended the following method of price indexing benefits:

> *Modify the Primary Insurance Amount (PIA) formula factors (90, 32, and 15) starting in 2009, reducing them successively by the measured real wage growth in the second prior year. Modified PIA factors would be applicable for OASDI beneficiaries becoming eligible for benefits in 2009 and later. This provision would result in increasing benefit levels for individuals with equivalent lifetime earnings across generations (relative to the average wage level) at the rate of price growth (increase in the CPI), rather than at the rate of growth in the average wage level as in current law. Calculation of the average indexed monthly earnings (AIME) used in computing the PIA would be unaffected by this provision.*[10]

The method of price indexing initial Social Security benefits recommended by the President's Commission would multiply the PIA factors each year by the ratio of the Consumer Price Index to the Average Wage Index for the second prior year. Workers' past earnings and the bend points in the benefit formula would continue to be indexed to the rate of growth of the national average wage index. If, for example, prices in a particular year grew by 2.8% and wages grew by 3.9%, each of the PIA factors would be multiplied by 1.028/1.039 = .989. Because increases in worker productivity cause wages to rise faster than prices, the PIA factors would fall and Social Security replacement rates would decline.

The Social Security Administration has estimated the long-term rates of growth of prices and wages will be 2.8% per year and 3.9% per year, respectively.[11] Under this assumption, after 75 years of multiplying the PIA factors by the ratio of price growth to wage growth, the 90% PIA factor would fall to 40.5%, the 32% factor would fall to14.4%, and the 15% factor would fall to 6.7%. All three factors would continue to fall into the indefinite future. The replacement rate for a career average-wage earner retiring at the full retirement age in 2080 would fall from 39% under current law to 16% under full price-indexing.[12] According to the SSA, fully price-indexing initial benefits would more than restore solvency to Social Security. Full price indexing would cut benefits by 2.07% of taxable payroll, which is more than is needed to offset the projected revenue shortfall of 1.92% of taxable payroll.

"Progressive" Price Indexing. As discussed above, even a small annual reduction in the PIA factors would result in substantial reductions in benefits when compounded over many years. This could have especially serious implications for the retirement income of low-wage workers, who are less likely to have employer-sponsored pensions, retirement savings, or other sources of retirement income. One way to preserve benefits for low-wage workers would be through "progressive" price-indexing of initial benefits. Under progressive price indexing, the initial benefits of low-wage workers would continue to be

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[10] Memorandum from Stephen Goss, SSA Chief Actuary, to the President's Commission, Jan. 31, 2002.

[11] In the Mar. 2005 Trustees' Report, the long-run rate of inflation is estimated to be 2.8% and the long-run rate of nominal wage growth is estimated to be 3.9%. These growth rates would yield a long-term annual growth rate of real wages of 1.039/1.028 = 1.07%.

[12] Due to the increase in the full retirement age to 67scheduled under current law, the replacement rate for an average-wage earner who claims benefits at the full retirement will fall from 42% in 2005 to 39% age in 2080.

fully wage-indexed, the benefits of average-wage workers would be based on a mix of wage-indexing and price- indexing, and the benefits of high-wage workers would be fully price-indexed.

Implementing progressive price-indexing of initial benefits would require workers to be segregated into three categories, based on their career-average earnings. Congress would have to define the earnings thresholds for "low-wage" workers, who would continue to have their initial benefits fully wage-indexed, and for "high-wage" workers, whose initial benefits would be fully price-indexed. Workers whose career-average earnings fall between these two amounts would have their initial benefits determined through a mix of wage-indexing and price-indexing. Under progressive price indexing, the reduction in total Social Security outlays would be smaller than if all workers' benefits were fully price-indexed. The difference in total outlays would depend in part on the proportion of workers whose initial benefits would continue to be fully wage-indexed. The total reduction in outlays also would depend on whether benefits for high-wage earners would be reduced by the same percentage as they would have been cut if full price indexing had been applied to all workers, or if larger reductions would be made in the benefits of high-wage earners. If benefits for high-wage workers were cut by a greater percentage than they would have been cut under full-price indexing for all workers, then the difference in total savings achieved by full price-indexing and progressive price indexing would be smaller. The precise benefit reduction for workers at each earnings level would depend on the policy goals that Congress wishes to achieve through price-indexing benefits.

How Progressive Price Indexing Would Work. The Social Security Administration has described a method of progressive price-indexing for individuals who become eligible for retired-worker benefits in 2012 and later.[13] This would be done in three steps. First, SSA would compute the percentage benefit reduction that would apply for a career *high-wage* earner if all three of the PIA factors (90%, 32%, and 15%) were fully price-indexed.[14] For example, if the benefit for a career high-wage earner retiring at the full retirement age in a future year were determined to be, say, $2,800 per month and the percentage changes in prices and wages since the base year were 2.8% and 3.9%, respectively, the benefit for a high-wage earner would be recalculated with each of the three PIA factors multiplied by the ratio 1.028/1.039 or .989. Thus, in this example, the benefit of a high-wage earner under full price indexing would be reduced by 1.07% in the first year that price indexing was in effect. After ten years — assuming that prices and wages continued to grow annually by 2.8% and 3.9% — the PIA factors would be multiplied by $1.028^{10}/1.039^{10} = .899$, representing a benefit reduction of 10.1%.

The benefits of low-wage workers would be preserved by establishing a new "bend point" in the PIA formula, below which initial benefits would continue to be fully wage-indexed. In the proposal studied by SSA, this new bend point would be established at the 30th percentile of earnings. Workers with career-average earnings in the lowest 30% of the earnings distribution would continue to have their initial benefits fully wage-indexed. SSA has historically defined a "low-wage" worker as one with earnings less than or equal to 45% of the average wage. Defining low-wage workers as those in the lowest 30% of the earnings

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[13] Memorandum from Stephen Goss, Chief Actuary of the Social Security Administration to Robert Pozen, Feb. 10, 2005. See [http://www.ssa.gov/OACT/solvency/RPozen_20050210.pdf].

[14] This would be done as described in "Model 2" of the President's 2001Commission to Strengthen Social Security. See [http://www.csss.gov/reports/Final_report.pdf].

distribution would include workers with earnings less than or equal to 34% of the national average wage in this category. Congress could, of course, define low-wage workers in any of a number of ways, depending on the relative importance it assigns to reducing program costs compared to maintaining the benefits of low-wage workers. The higher the earnings level defined as "low-wage," the deeper the benefit cuts for higher-wage workers would have to be in order to achieve the same total reduction in outlays.

The new bend point would increase each year by the rate of growth of the national average wage, just as the two current bend points are wage-indexed. SSA has estimated that a bend point at the 30th percentile of average monthly earnings would be located 28.6% of the way up from the current first bend point to the current second bend point. This would put the new bend point at about $2,000 in 2012, the first year of progressive price indexing in the proposal analyzed by SSA. All retired workers with career-average earnings below this new bend point would continue to have their initial benefits fully wage-indexed. The 90% PIA factor would apply to average monthly earnings up to the first bend point and the 32% PIA factor would apply to average monthly earnings between the first bend point and the new second bend point.

The third step of the process would be to calculate the percentage reduction to the PIA factors above the new bend point (32% and 15%) that would result in the same benefit reduction for career-long maximum-wage earners (those at or above the annual maximum taxable wage) as would have applied to these earners if price indexing had been applied to all workers. This would reduce benefits for career-long maximum-wage earners by the same percentage as they would have been reduced if the benefit formula were fully price-indexed for workers at all earnings levels. Benefits would be reduced by a smaller percentage for workers with career-long average wages and not at all for workers with average wages that fall in the lowest 30% of the earnings distribution. SSA has estimated that this method of price indexing would reduce the long-run Social Security deficit by 1.4% of taxable payroll, or about 74% of the estimated 75-year deficit of 1.9% of taxable payroll.

Estimated Effect on Benefits of Progressive Price Indexing. **Table 1** illustrates the effects in 2030 of full price indexing and of progressive price indexing on hypothetical workers with maximum, average, and low career-average earnings.[15] If full price-indexing of initial benefits were to be implemented in 2012, and if prices and wages were to grow at 2.8% per year and 3.9%, respectively, for each year thereafter, by 2030 the three PIA factors in the benefit formula would be multiplied by a factor of .826, representing the ratio of price increases to wage increases over the period from 2012 to 2030. This would reduce each PIA factor by 17.4%. Under full price-indexing, the initial benefits of all new beneficiaries would be reduced by this percentage. Under the method of progressive price indexing described by SSA, benefits would continue to be wage-indexed for all workers whose career-average earnings fall in the lowest 30% of the earnings distribution. To achieve this objective, a new bend point would be established about 28.6% of the way between the current first and second bend points. Below this new bend point — which would fall in the earnings bracket to which the 32% PIA factor now applies — the 90% and 32% PIA factors would continue to be applied each year. Above this new bend point, both the 32% and 15% PIA factors would be reduced by a greater percentage than they would

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[15] These examples illustrate how price indexing would be applied to the PIA factors. They show the *approximate* effects of price indexing on the Primary Insurance Amount of hypothetical workers with high, medium, and low career earnings.

have been reduced under full price indexing so that the percentage reduction that would apply to maximum-wage earners would be the same as under across-the-board price indexing.

Table 1 shows that with prices and wages growing at 2.8% and 3.9% per year, in order to achieve the same percentage reduction in benefits in 2030 for maximum-wage earners under progressive price indexing as under full price indexing, the 32% factor (above the new bend point) and the 15% factor would have to be reduced by 26.6%.[16] Reducing the *top two* PIA factors by 26.6% would reduce the PIA of maximum-wage earners by the same amount as would a 17.4% reduction applied to all three *original* PIA factors. Progressive price indexing would reduce the PIA of average-wage workers by a smaller percentage than would full indexing. In this example, benefits for average-wage worker would be reduced by 13.3% in 2030. Workers with career-average earnings in the lowest 30% of the earnings distribution would not experience any cut in benefits. **Table 2** and **Table 3** show the estimated effects on initial benefits of full price indexing and progressive price indexing in 2055 and in 2080.

Long-term implications of price-indexing initial benefits. The reduction in future Social Security benefits under either full price-indexing or progressive price-indexing would depend on the difference between wage growth and the rate of inflation. This is called *real wage growth*. For example, if prices rise by 3% and wages grow by 4%, then real wage growth would be 1% and the PIA factors would be multiplied by 1.03/1.04 or .99. However, if wages grow by 4.5% and prices rise by 3%, real wage growth would be 1.5% and the PIA factors would be multiplied by 1.03/1.045 or .985. *Faster growth of real wages would lead to deeper cuts in benefits.* If wages were to rise faster than currently forecast for a number of years, the reduction in future benefits would be substantially deeper than originally estimated. For example, the Social Security Trustees' intermediate or "best guess"economic assumptions project that in the long run, prices will grow by 2.8% per year and wages will grow by 3.9% per year. This would result in a long-run rate of *real wage growth* of 1.07%. If all three PIA factors were reduced annually by 1.07%, after 75 years the 90% PIA factor would be reduced to 40.5%, the 32% factor would be reduced to 14.4%, and the 15% factor would be reduced to 6.7%. However, if instead real wages were to grow by 1.5%, then after 75 years the 90% would be reduced to 30.4%, the 32% factor would be reduced to 10.8%, and the 15% factor would be reduced to 5.1%.

Faster real wage growth would reduce the need for future benefit cuts to restore Social Security to fiscal solvency because it would produce higher payroll taxes to the trust fund many years in advance of the higher benefit payments that those higher wages also would produce. The Social Security Administration Office of the Actuary, for example, has estimated that annual real wage growth of 1.6% would reduce the 75-year unfunded liability of Social Security from 1.92% of payroll to 1.39% of payroll, a reduction of 28%.[17] Thus, somewhat paradoxically, if real wages rise *faster* than projected, price indexing would result in *deeper* benefit cuts, even as Social Security's unfunded 75-year liability would be shrinking. Similarly, if real wage growth falls short of the 1.1% annual rate projected by the

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[16] It would be necessary to apply this greater reduction to the PIA of the high-wage earner because some of the earnings of these individuals would fall in the two lowest earnings brackets, to which the 90% and 32% PIA factors would continue to be applied.

[17] 2005 Annual Report of the Board of Trustees, Table VI.D4, p. 153.

Social Security Administration, the benefit reductions that price indexing would generate would be smaller than estimated and the program's unfunded liability would grow *larger*.

The method of price-indexing Social Security benefits recommended in Model 2 of the President's Commission would reduce the PIA factors each year by the ratio of the Consumer Price Index to the average wage index. This process would reduce the PIA factors into the indefinite future. However, the ratio of workers to retirees will not continue to fall indefinitely. Therefore, it may not be necessary for replacement rates to continue to fall indefinitely. If Congress were to choose this method of price indexing benefits, it could leave it up to future Congresses to decide if the PIA factors should continue to be reduced, or the law that implements price indexing could specify the conditions under which the PIA factors would no longer be price-indexed and replacement rates would be stabilized.[18]

Progressive Price Indexing Would Lead to the Same Benefit for All Workers. The current Social Security benefit formula is progressive in that the replacement rate is higher for low-wage workers than for high-wage workers. Nevertheless, the current benefit formula also is designed to recognize the greater amount of payroll taxes paid by high-wage workers. It does this by paying higher benefits to high-wage workers than to low-wage workers. Under the method of progressive price indexing analyzed by SSA and described in this memorandum, all workers eventually would be paid the same monthly benefit. This would occur because the PIA factors applied to the two higher earnings brackets would be reduced each year while the PIA factors applied to the two lower earnings brackets would remain unchanged. Eventually, the PIA factors applied to the upper two earnings brackets would be reduced to zero. At that point, initial benefits would be the same for all workers with earnings at or above the level of the second bend point. CRS estimates that this would occur approximately 100 years following the implementation of progressive price indexing as described by SSA, assuming long-run real wage growth of 1.1% per year. As noted earlier, however, Congress could identify in any legislation that implemented price-indexing the conditions – such as elimination of Social Security's long-term deficit – under which the reduction of benefits through price indexing would no longer continue.

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[18] Congress also would have to decide whether the same procedures would be applied in years when prices grow faster than wages. This occurred 18 times between 1940 and 2004.

Table 1. Estimated Primary Insurance Amounts at full retirement age in 2030 under full price indexing and progressive price indexing

Bend Points	AIME within each bracket	PIA Factors	PIA	PIA Adjustment Factor	New PIA Factors	New PIA	Change in PIA
High-wage earner: full price indexing							
$1,427	$1,427	0.90	$1,284	0.826	0.743	$1,061	
$8,599	$7,172	0.32	$2,295	0.826	0.264	$1,895	
$15,892	$7,293	0.15	$1,094	0.826	0.124	$903	
	$15,892		**$4,673**			**$3,859**	**-$815**
							-17.4%
High-wage earner: progressive price indexing							
$1,427	$1,427	0.90	$1,284	1.0000	0.900	$1,284	
*$2,459	$1,032	0.32	$330	1.0000	0.320	$330	
$8,599	$6,140	0.32	$1,965	0.7336	0.235	$1,441	
$15,892	$7,293	0.15	$1,094	0.7336	0.110	$803	
	$15,892		**$4,673**			**$3,859**	**-$815**
							-17.4%
Average-wage earner: full price indexing							
$1,427	$1,427	0.90	$1,284	0.826	0.743	$1,061	
$8,599	$6,062	0.32	$1,940	0.826	0.264	$1,602	
$15,892	$0	0.15	$0	0.826	0.124	$0	
	$7,489		**$3,224**			**$2,662**	**-$562**
							-17.4%
Average-wage earner: progressive price indexing							
$1,427	$1,427	0.90	$1,284	1.0000	0.900	$1,284	
*$2,459	$1,032	0.32	$330	1.0000	0.320	$330	
$8,599	$5,030	0.32	$1,610	0.7336	0.235	$1,181	
$15,892	$0	0.15	$0	0.7336	0.110	$0	
	$7,489		**$3,224**			**$2,796**	**-$429**
							-13.3%
Low-wage earner: full price indexing							
$1,427	$1,427	0.90	$1,284	0.826	0.743	$1,061	
$8,599	$1,032	0.32	$330	0.826	0.264	$273	
$15,892	$0	0.15	$0	0.826	0.124	$0	
	$2,459		**$1,615**			**$1,333**	**-$282**
							-17.4%
Low-wage earner: progressive price indexing							
$1,427	$1,427	0.90	$1,284	1.0000	0.900	$1,284	
*$2,459	$1,032	0.32	$330	1.0000	0.320	$330	
$8,599	$0	0.32	$0	0.7336	0.235	$	
$15,892	$0	0.15	$0	0.7336	0.110	$0	
	$2,459		**$1,615**			**$1,614**	**-$0**
							-0%

* New bend point.

Source: Estimates prepared by the Congressional Research Service.

Table 2. Estimated Primary Insurance Amounts at full retirement age in 2055 under full price indexing and progressive price indexing

Bend Points	AIME within each bracket	PIA Factors	PIA	PIA Adjustment Factor	New PIA Factors	New PIA	Change in PIA
High-wage earner: full price indexing							
$3,714	$3,714	0.90	$3,343	0.633	0.569	$2,115	
$22,379	$18,655	0.32	$5,973	0.633	0.202	$3,779	
$41,359	$18,980	0.15	$2,847	0.633	0.095	$1,801	
	$41,359		**$12,163**			**$7,696**	**-$4,467**
							-36.7%
High-wage earner: progressive price indexing							
$3,714	$3,714	0.90	$3,343	1.0000	0.900	$3,343	
*$6,401	$2,686	0.32	$860	1.0000	0.320	$860	
$22,379	$15,979	0.32	$5,113	0.4389	0.140	$2,244	
$41,359	$18,980	0.15	$2,847	0.4389	0.066	$1,250	
	$41,359		**$12,163**			**$7,696**	**-$4,467**
							-36.7%
Average-wage earner: full price indexing							
$3,714	$3,714	0.90	$3,343	0.633	0.569	$2,115	
$22,379	$15,777	0.32	$5,049	0.633	0.202	$3,195	
$41,359	$0	0.15	$0	0.633	0.095	$0	
	$19,941		**$8,391**			**$5,310**	**-$3,082**
							-36.7%
Average-wage earner: progressive price indexing							
$3,714	$3,714	0.90	$3,343	1.0000	0.900	$3,343	
*$6,401	$2,686	0.32	$860	1.0000	0.320	$860	
$22,379	$13,091	0.32	$4,189	0.4389	0.140	$1,839	
$41,359	$0	0.15	$0	0.4389	0.066	$0	
	$19,491		**$8,391**			**$6,041**	**-$2,350**
							-28.0%
Low-wage earner: full price indexing							
$3,714	$3,714	0.90	$3,343	0.633	0.569	$2,115	
$22,379	$2,686	0.32	$859	0.633	0.202	$544	
$41,359	$0	0.15	$0	0.633	0.095	$0	
	$6,400		**$4,202**			**$2,659**	**-$1,543**
							-36.7%
Low-wage earner: progressive price indexing							
$3,714	$3,714	0.90	$3,343	1.0000	0.900	$3,343	
*$6,401	$2,686	0.32	$860	1.0000	0.320	$860	
$22,379	$0	0.32	$0	0.4389	0.140	$0	
$41,359	$0	0.15	$0	0.4389	0.066	$0	
	$6,400		**$4,202**			**$4,202**	**-$0**
							-0%

* New bend point.

Source: Estimates prepared by the Congressional Research Service.

Table 3. Estimated Primary Insurance Amounts at full retirement age in 2080 under full price indexing and progressive price indexing

Bend Points	AIME within each bracket	PIA Factors	PIA	PIA Adjustment Factor	New PIA Factors	New PIA	Change in PIA
High-wage earner: full price indexing							
$9,666	$9,666	0.90	$8,700	0.485	0.436	$4,219	
$58,242	$48,576	0.32	$15,544	0.485	0.155	$7,538	
$107,637	$49,395	0.15	$7,409	0.485	0.073	$3,593	
	$107,637		**$31,653**			**$15,349**	**-$16,304**
							-51.5%
High-wage earner: progressive price indexing							
$9,666	$9,666	0.90	$8,700	1.0000	0.900	$8,700	
*$16,657	$6,991	0.32	$2,237	1.0000	0.320	$2,237	
$58,242	$41,585	0.32	$13,307	0.2130	0.068	$2,834	
$107,637	$49,395	0.15	$7,409	0.2130	0.032	$1,578	
	$107,637		**$31,653**			**$15,349**	**-$16,304**
							-51.5%
Average-wage earner: full price indexing							
$9,666	$9,666	0.90	$8,700	0.485	0.436	$4,219	
$58,242	$41,059	0.32	$13,139	0.485	0.155	$6,371	
$107,637	$0	0.15	$0	0.485	0.073	$0	
	$50,725		**$21,839**			**$10,590**	**-$11,249**
							-51.5%
Average-wage earner: progressive price indexing							
$9,666	$9,666	0.90	$8,700	1.0000	0.900	$8,700	
*$16,657	$6,991	0.32	$2,237	1.0000	0.320	$2,237	
$58,242	$34,068	0.32	$10,902	0.2130	0.068	$2,322	
$107,637	$0	0.15	$0	0.2130	0.032	$0	
	$50,725		**$21,839**			**$13,259**	**-$8,580**
							-39.3%
Low-wage earner: full price indexing							
$9,666	$9,666	0.90	$8,700	0.485	0.436	$4,219	
$58,242	$6,991	0.32	$2,2376	0.485	0.155	$1,085	
$107,637	$0	0.15	$0	0.485	0.073	$0	
	$16,657		**$10,936**			**$5,303**	**-$5,633**
							-51.5%
Low-wage earner: progressive price indexing							
$9,666	$9,666	0.90	$8,700	1.0000	0.900	$8,700	
*$16,657	$6,991	0.32	$2,237	1.0000	0.320	$2,237	
$58,242	$0	0.32	$0	0.2130	0.068	$0	
$107,637	$0	0.15	$0	0.2130	0.032	$0	
	$16,657		**$10,937**			**$10,937**	**-$0**
							-0%

* New bend point.

Source: Estimates prepared by the Congressional Research Service.