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**Improving Social Security's Progressivity
and Solvency With Hybrid Indexing**

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Improving Social Security's Progressivity and Solvency With Hybrid Indexing

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Virtually everyone familiar with U.S. Social Security financing understands that the system cannot pay currently legislated benefits for more than another three or four decades without significant, probably politically unacceptable, tax increases. Some analysts predict that the cash crunch will come substantially sooner than that. Various ways to measure the financial inadequacy of the system are outlined in recent annual reports of the Social Security Trustees. However, all reasonable measures of the system's finances lead to the same fundamental conclusion that the system's benefits and revenue sources must be significantly rebalanced. The only issue is when the necessary policy changes should be imposed.

Even if one takes the most favorable perspective on the long-term funding situation of Social Security, it is important to consider the lead time necessary to minimize the disruptive effects that rebalancing the system could have on future beneficiaries or taxpayers. The most recent intermediate or "best guess" estimate of the Trustees is that the combined OASDI trust funds will be completely exhausted in 2042 under current law, although their most conservative estimate suggests that the trust funds could be depleted by 2031. When the trust funds are exhausted, dramatic adjustments to benefit payments or trust fund revenues will be required. If we assume that the system continues to operate under current law until the trust funds are depleted, the latest projections are that at the time of exhaustion benefits would have to be cut by more than one-third for all beneficiaries then retired and all future beneficiaries in order to bring the

system back into balance (U.S. Board of Trustees (2003)). Alternatively, dramatic payroll tax increases would have to be imposed on workers. To wait to make adjustments until this problem is upon us would be grossly unfair to the beneficiaries and/or workers at that time.

In response to this situation, one of the proposed reform options put forward by the President's *Commission to Strengthen Social Security* (2001) featured a modification in the way retirement benefits would be calculated in the future. Given the Social Security Trustees' current intermediate assumption that average wages will grow 1.1 percent per year faster than the overall price level, current law implies that the Social Security benefits of people retiring forty years from now will be roughly fifty-five percent higher in terms of purchasing power than the benefits of today's retirees. One of the options put forward by the President's Commission was to eliminate this growth in real benefits by shifting from determining initial benefits by wage indexing prior earnings to price indexing them after 2009. Under this policy real benefit levels would be maintained but not increased. This change in indexing alone would completely eliminate the funding deficit now faced by the system over the 75-year projection period employed by its actuaries (The President's Commission to Strengthen Social Security (2001)). In fact, the system would be running a substantial surplus at the end of the 75-year window.

The net effect of substituting price indexing for wage indexing would be to gradually reduce Social Security benefits relative to a worker's lifetime wages. The average replacement rate of Social Security would gradually fall from its current level of 43 percent. Just to be clear, real benefits would not be reduced from their current level under this President's Commission alternative, but they would be reduced relative to

wages and relative to what is currently promised future retirees by the law. Future real benefit increases, which are embedded in current legislation if wages rise faster than prices, would be eliminated.

An across the board reduction in legislated or promised benefits of this sort would have widely different implications for workers depending on their economic situation in retirement. This point is best explained by adapting an analysis developed by James Moore and Olivia Mitchell (2000). Their analysis uses *Health and Retirement Study* (HRS) data. The HRS is collecting longitudinal information on a representative sample of the U.S. population between the ages of 51 and 61 in 1992. Sample members are being interviewed every two years.

Moore and Mitchell used the 1994 wave of the HRS interviews to estimate the participating households' wealth levels just as most of them were approaching retirement. They included four classes of wealth in their calculations: 1) net financial wealth, including savings accounts, investments, business assets, and non-residential real estate less outstanding debt not related to housing; 2) net housing wealth; 3) pension wealth, or the present value of employer-sponsored retirement benefits; and, 4) the present value of Social Security benefits under current law.

Table 1 has been derived from Moore and Mitchell's analysis. The wealth measure we have used does not include net housing wealth because most homeowners do not sell their homes at retirement, or if they do, they tend to buy another one. Our definition of wealth includes business assets and non-residential properties. We are interested in looking at the assets of these households that can be expected to generate a stream of income that can be used to finance consumption during retirement.

Table 1 shows that the people at the bottom tenth percentile of the wealth distribution hold almost all of their wealth in the form of Social Security retirement benefits. Social Security benefits still account for almost two-thirds of total wealth for those households one-third of the way up the wealth distribution. Those two-thirds of

Table 1 Distribution of Wealth among the Near Elderly

Position in the Wealth Holding Distribution	Retirement Purchasing Power from:			
	Personal Financial Wealth (percent)	Social Security Wealth (percent)	Pension Wealth (percent)	Total Wealth (percent)
Bottom 10th	3.4	93.6	3.0	100.0
1/3 from bottom	18.1	63.4	18.5	100.0
2/3 from bottom	29.9	35.7	34.4	100.0
Top 10th	65.2	10.2	24.6	100.0

Source: Moore and Mitchell (2000), p. 72.

the way up have a rough parity in their wealth holdings between their social security annuity, employer-sponsored pensions and other financial wealth. Those at the top of the wealth distribution have very limited dependence on Social Security. The retirement security risks associated with potential adjustments in Social Security benefits are clearly not randomly distributed across the wealth distribution.

The implications of this information about how wealth components vary with total wealth can best be understood in the context of the increase in the Social Security normal retirement age now underway. Raising the age at which one can collect full retirement benefits from 65 to 67 decreases the present value of Social Security benefits by about 12.5 percent. For people in the bottom 10 percent of the wealth distribution, a

12.5 percent reduction in their Social Security benefits represents roughly an 11.7 percent reduction in their retirement income resources because nearly 94 percent of their retirement wealth is tied up in Social Security. At the top 10th percentile of the wealth distribution, however, a 12.5 percent Social Security benefit reduction represents only a 1.3 percent reduction in retirement resources. This analysis doesn't take into account that lower-wealth individuals tend to have shorter life expectancies than wealthier members of their age cohort.

With these distributional issues in mind, we propose a modification to the President's Commission proposal to price index initial Social Security benefits.ⁱⁱ Our proposal captures some of the savings that can be realized by slowing the growth of future benefits while addressing the concern that slowing the growth of benefits across the board may be unfair to lower income workers. Those at the bottom end of the earnings distribution may not have the ability to adjust their other retirement savings to offset the changes in how Social Security determines benefit amounts.

We refer to our proposal as "hybrid indexing." We are proposing that workers in the bottom 30 percent of the average indexed monthly earnings (AIME) distribution continue to experience Social Security benefit growth in accordance with current law. Their initial benefits would go up as wages rise in the economy. Workers whose earnings fall between the 30th percentile of the AIME distribution and maximum would have their benefits adjusted on a sliding scale between full wage indexing at the 30th percentile to full price indexing at the maximum AIME level. Under our proposal workers at the maximum earnings level taxed under Social Security would see their benefits grow at the rate of growth of prices after 2012. Thus for those with the highest earnings levels we

would reduce promised benefits by the cumulative difference between wage growth and price growth beyond 2012 just like the President's Commission proposal. For workers who become eligible for benefits after 2012, initial benefits would be computed first under the current benefit formula. Then the benefit would be reduced by the ratio of the cumulative growth in prices relative to the cumulative growth in wages beyond 2012.

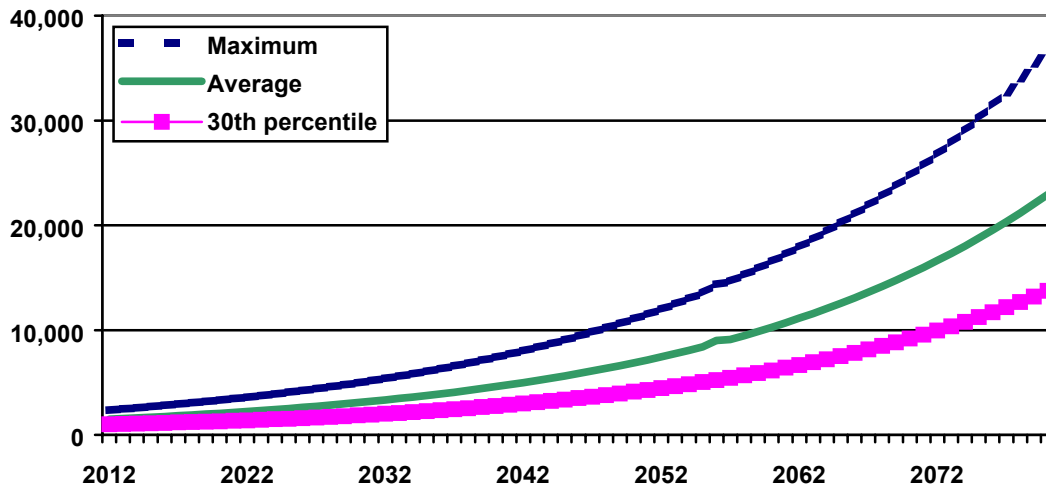
The second step in modifying the system under this proposal would be to create a new bend point in the current primary insurance amount (PIA) formula at the level of career-average earnings of the retiree at the 30th percentile of those becoming eligible for benefits in 2010. This new bend point is estimated to be 28.6 percent of the way up from the current first bend point to the current second bend point. This bend point would be indexed in the future to account for average wage growth in the economy in the same fashion as the current bend points are under current law. This step is intended to hold those in the bottom 30 percent of the AIME distribution harmless from the reduction in promised benefits of our proposal.

The third step in modifying the system requires calculating the percentage reduction in the 32 and 15 percent PIA factors above the new bend point that would be required to reduce the maximum earners benefit to the level determined in the first step. This relative reduction in these two factors for the maximum earner is then applied to the PIA factors for the AIME in excess of the 30th percentile of the AIME distribution for all workers with average indexed earnings above that amount.ⁱⁱⁱ No benefit could exceed the benefit received by those at the AIME maximum. The PIA benefit would gradually flatten and eventually everyone would get the maximum real benefit received in 2012.

Figure 1 shows the monthly benefits that would be paid to maximum, average, and 30th percentile workers retiring at age 65 in nominal dollars from 2012 to 2080 under current law with the intermediate assumptions set of the Trustees. In real terms these benefits are projected to grow significantly over the period. The purchasing power of the maximum wage worker's benefit in 2080 would be roughly 2.2 times the purchasing power of a maximum wage worker's benefit today. The average and 30th percentile workers grow by comparable amounts compared to the current benefit levels provided to workers at similar points in the total wage distribution. The largest monthly benefit in 2080 would be 168 percent larger than the benefit received by someone at the 30th percentile in the AIME distribution.

Figure 1 Comparison of Monthly Social Security Benefits for a 65-Year-old Beneficiary at the Maximum, Average and 30th Percentile Wage Distribution under Current Law

(Amounts shown in nominal dollars)

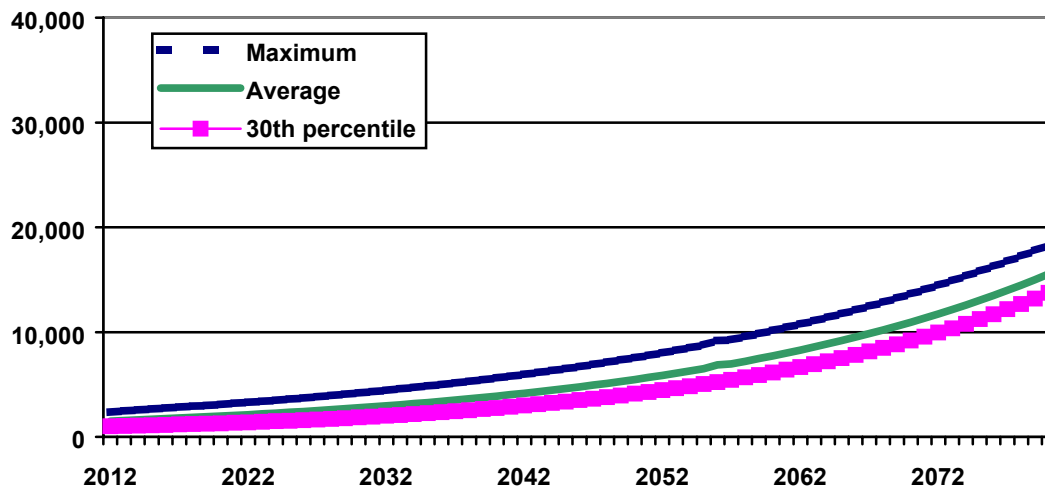


Source: Computed by the authors.

The level of benefits under our hybrid indexing proposal for successive cohorts of workers is reflected in Figure 2. The future level of inequality of Social Security benefits

is greatly reduced. In 2080, for instance, the monthly benefit received by those with the highest AIMEs is only 33 percent higher than the monthly benefit of those at the 30th percentile in the AIME distribution. By that point in time, a great deal of the flattening of the PIA formula would have been completed. Further, the income replacement rate of workers in the bottom 30 percent of the AIME distribution would have been maintained.

Figure 2: Comparison of Social Security Monthly Benefits for a 65-Year-old Beneficiary at the Maximum, Average and 30th Percentile Wage Distribution under Hybrid Indexing
(Amounts shown in nominal dollars)



Source: Computed by the authors.

One of the advantages of this hybrid indexing proposal is that reduction in benefit promises occurs only very gradually. The first retirees affected by our program (those retiring in 2013, for instance) will have their benefits reduced by at most the difference between wage growth and price growth for one year. The Trustees assume that this amount will be one percent. Low-income retirees will have no change in their benefits and only those whose career average earnings were at or above the cutoff of income subject to Social Security payroll taxes will face the full reduction. We cannot emphasize

enough that this reduction is merely the elimination in the real benefit increase that is built into current law. Some of the retirees whose benefits are cut relative to current law by our proposal will undoubtedly want to increase their saving in order to maintain their retirement standard of living. In separate work we have estimated that no one would need to save more than an additional one percent of earnings in order to make up for the adjustments we propose. The first cohort of retirees to feel the effects of hybrid indexing would need to start their program of increased saving by 2008 in order to have accumulated enough additional resources to cover their losses relative to current law.

Stephen Goss, the chief actuary at the Social Security Administration, has analyzed this hybrid indexing proposal and has estimated that it would reduce the 75-year deficit estimate of Social Security from 1.92 percent of covered payroll to 0.55 percent of covered payroll. In other words, it would eliminate roughly 71 percent of the 75-year solvency problem. In fact, it would do more than that, because the financial viability of the “out years,” those years beyond the 75 year window, would be dramatically improved under hybrid indexing. The remaining 29 percent of the solvency issue could be solved by modest increases in retirement ages or manageable increases in taxes.

Two of us have been strong advocates of individual accounts as part of Social Security reform for a long time (see, for example, Schieber and Shoven (1999)). In fact, the Personal Security Account 2000 proposal in the 1999 book featured both individual accounts and flat traditional Social Security benefits. We view this proposal for hybrid indexing as a way to make a major dent in Social Security’s solvency problem while at the same time increasing the system’s progressivity and very gradually moving to flat benefits. While a separate matter, we think individual accounts can be considered on

their own merits once the solvency problem has been made manageable. In that sense, we do not see this hybrid indexing proposal as a competitor to individual accounts. In fact, by not burdening them with the task of solving system solvency, they can be evaluated more objectively.

Hybrid indexing allows for gradually slowing the growth in Social Security benefits without putting anyone at risk of an insecure retirement. The poor would be completely protected from bearing the burden of restoring the solvency of Social Security. Everyone would receive benefits at least as large as those being offered today. We think that hybrid indexing offers an unmatched combination of positive attributes while still making major progress on Social Security's financial imbalance. As with any proposal to address the solvency issue, it needs to be studied carefully. However, it would be more effective in achieving its significant benefits if enacted sooner rather than later.

REFERENCES

Moore, James F. and Mitchell, Olivia S., “Projected Retirement Wealth and Savings Adequacy,” in Olivia S. Mitchell, P. Brett Hammond, and Anna M. Rappaport, eds., Forecasting Retirement Needs and Retirement Wealth. Philadelphia: University of Pennsylvania Press, 2000, pp. 68-94.

Schieber, Sylvester J. and Shoven, John B., The Real Deal: the History and Future of Social Security. New Haven, CT and London: Yale University Press, 1999.

The President’s Commission to Strengthen Social Security, Strengthening Social Security and Creating Personal Wealth for All Americans. Washington, DC: U.S. Government Printing Office, 2001. (Final Report can be found at: http://www.csss.gov/reports/Final_report.pdf).

U.S. Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds, 2003 Annual Report. Washington, DC: U.S. Government Printing Office, 2003

Footnotes

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ⁱⁱ This proposal was originated and developed during the summer of 2003 by Robert Pozen of Harvard Law School; at his request, the proposal was scored by the Chief Actuary of Social Security, Stephen Goss. The proposal in this paper, its scoring and estimates are substantially the same as the ones in the Pozen proposal.

ⁱⁱⁱ Assume a worker at the maximum AIME would have a PIA of \$1,500 under full wage indexing but only \$1,250 under price indexing. Further assume that \$1,000 of his benefit is based on his AIME above the 30th percentile of AIMEs. Then the reduction for determining benefits above the 30th percentile of the AIME would be \$250/\$1000 or 0.25. In other words, if the benefit reduction is to come from the AIME above the 30th percentile, one way to achieve such a reduction, and the one proposed here would be to reduce the factors that are used to determine the PIA above the 30th percentile by 25 percent. Since the reduction is 0.25 in this case, the residual would be 0.75 (i.e., $1.00 - 0.25 = 0.75$). For workers between the 30th percentile of the AIME and the maximum, the 32 and 15 percent PIA factors would be multiplied by 0.75 to determine their PIA above the 30th percentile of the AIME.