Policy Analysis

Still a Better Deal
Private Investment vs. Social Security

by Michael Tanner

Executive Summary

Opponents of allowing younger workers to privately invest a portion of their Social Security taxes through personal accounts have long pointed to the supposed riskiness of private investment. The volatility of private capital markets over the past several years, and especially recent declines in the stock market, have seemed to bolster their argument.

However, private capital investment remains remarkably safe over the long term. Despite recent declines in the stock market, a worker who had invested privately over the past 40 years would have still earned an average yearly return of 6.85 percent investing in the S&P 500, 3.46 percent from corporate bonds, and 2.44 percent from government bonds.

If workers who retired in 2011 had been allowed to invest the employee half of the Social Security payroll tax over their working lifetime, they would retire with more income than if they relied on Social Security. Indeed, even in the worst-case scenario—a low-wage worker who invested entirely in bonds—the benefits from private investment would equal those from traditional Social Security.

While there are limits and caveats to this type of analysis, it clearly shows that the argument that private investment is too risky compared with Social Security does not hold up. With Social Security already running a cash-flow deficit today—and facing a $21 trillion shortfall in the future that will make it impossible to pay promised benefits—private investment and personal accounts should be part of any discussion about reforming the troubled system.

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Introduction

Opponents of allowing younger workers to privately invest a portion of their Social Security taxes through personal accounts have long pointed to the supposed riskiness of private investment. The volatility of private capital markets over the past several years, and especially recent declines in the stock market, have seemed to bolster their argument.

For example, President Obama warned that, "A few years ago, we had a debate about privatizing Social Security. And I'd have thought that debate would've been put to rest once and for all by the financial crisis we've just experienced. I'd have thought, after being reminded how quickly the stock market can tumble, after seeing the wealth people worked a lifetime to earn wiped out in a matter of days; that no one would want to place bets with Social Security on Wall Street."[1] And then-Speaker Nancy Pelosi (D-CA) claimed that personal accounts would have meant that "seniors would have lost trillions more in the financial crisis."[2]

In reality, however, given a long-term investment horizon, not only is private capital investment a remarkably safe bet, but the returns from long-term private investment still beat the return from Social Security. Contrary to what the president and Representative Pelosi implied, if we had established a system of individual accounts 40 years ago, individuals retiring now, and investing privately through those accounts, would be better off than they are under Social Security.

Given Social Security's ongoing financial problems and its inability to pay currently promised benefits, personal accounts remain an important and viable option for reforming the troubled system. It is important, therefore, to carefully examine market performance and compare that performance with Social Security benefits.

Social Security's Failing Finances

Although Social Security reform has largely been off the political radar since

Figure 1
Social Security's Growing Cash-Flow Deficit
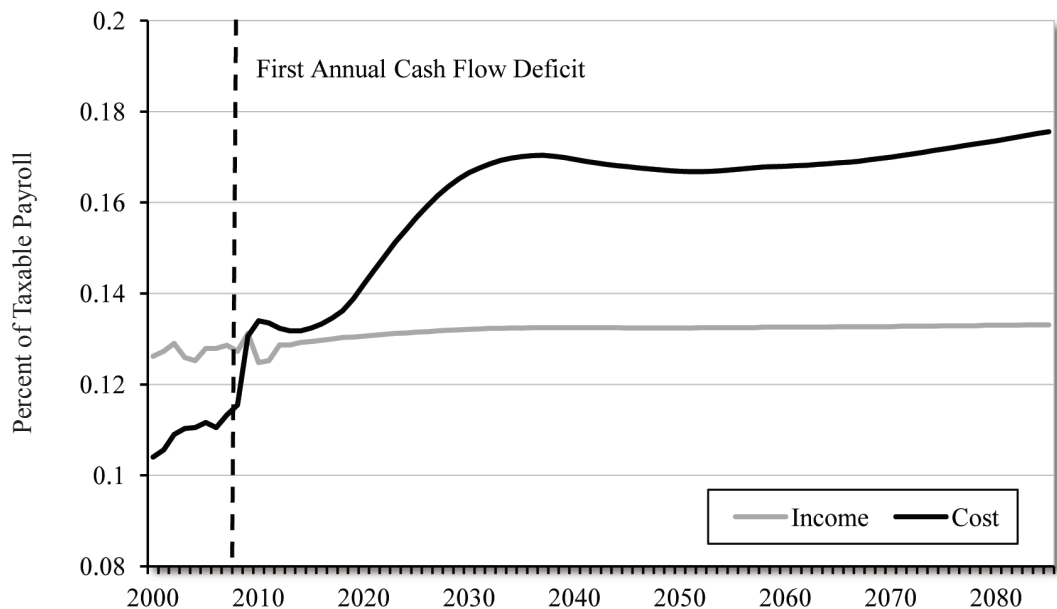
Source: "A Summary of the 2011 Report," Social Security and Medicare Board of Trustees, Chart B, Income and Cost Rates, http://www.ssa.gov/oact/TRSUM/index.html.

President George W. Bush's failed attempt to reform the system in 2004, the problems facing our national retirement system have not gone away. In fact, since the demise of the Bush proposal, Social Security's long-term unfunded liabilities have increased by nearly $6 trillion, to roughly $21 trillion. This year, Social Security actually began running a cash-flow deficit, paying out more in benefits than it takes in through taxes (Figure 1).[3]

In theory, of course, Social Security is supposed to continue paying benefits by drawing on the Social Security Trust Fund until 2036, after which the fund will be exhausted.[4] At that point, *by law*, Social Security benefits will have to be cut by approximately 24 percent.[5]

However, in reality, the Social Security Trust Fund is not an asset that can be used to pay benefits. Any Social Security surpluses accumulated to date have been spent, leaving a Trust Fund that consists only of government bonds that will eventually have to be repaid by taxpayers. As the Clinton administration's Fiscal Year 2000 Budget explained it:

> These [Trust Fund] balances are available to finance future benefit payments and other Trust Fund expenditures—but only in a bookkeeping sense. . . . They do not consist of real economic assets that can be drawn down in the future to fund benefits. Instead, they are claims on the Treasury that, when redeemed, will have to be financed by raising taxes, borrowing from the public, or reducing benefits or other expenditures. The existence of large Trust Fund balances, therefore, does not, by itself, have any impact on the Government's ability to pay benefits.[6]

Whatever one thinks of the viability of the Trust Fund, it will be completely exhausted by 2036.[7] At that point, Social Security will have to rely solely on revenue from the payroll tax—but that revenue will not be sufficient to pay all promised benefits. Overall,

Social Security faces unfunded liabilities of $20.8 trillion.[8] Clearly, Social Security is not sustainable in its current form. That means that Congress will again be forced to resort to raising taxes and/or cutting benefits in order to enable the program to stumble along.

And either the tax increases or benefit reductions would need to be significant. For example, to restore Social Security to solvency would require raising the current 12.4 percent Social Security payroll tax to at least 17.6 percent, a 42 percent increase, or raising the equivalent amount of revenue from other taxes.[9] Eliminating the cap on taxable income for payroll taxes, one frequent suggestion, would actually do little for the program's long-term solvency.[10]

On the other side of the ledger, restoring the program to solvency would require at least a 24 percent reduction in benefits. Suggested changes include further raising the retirement age, trimming cost-of-living adjustments, means-testing, or changing the wage-price indexing formula. Obviously, there are better and worse ways to make these changes. But any of those changes would ultimately mean that today's young workers would end up paying more, getting less, or both. Since Social Security's rate-of-return, just 2.2 percent for a middle-income earner retiring in 2012, is already far below the historic average for private capital markets, these changes would make Social Security an even worse deal for young workers.[11] Since 1928, a period including the Great Depression, World War II, the stagflation of the 1970s, the bursting of the dot-com bubble, and the recent recession, the average annual real return on stocks in the U.S has been 6.09 percent.

It would make sense, therefore, to offset these changes by allowing younger workers the option of saving and privately investing at least a portion of their Social Security taxes. That would allow those workers to take advantage of the potentially higher returns available from capital investment. In a dynamically efficient economy, the return on capital will exceed the rate of return to labor,

In reality, the Social Security Trust Fund is not an asset that can be used to pay benefits.

and therefore will be higher than the benefits that Social Security can afford to pay. In the United States, the return on capital has generally run about 2.5 percentage points higher than the return on labor.[12]

On the other hand, capital markets are both risky and volatile. Figure 2 shows the annual real return to the Dow over the last 40 years. Clearly, there has been a high degree of volatility, with the market making large swings down as well as up. However, despite those downturns, the S&P averaged an annual real return of 6.85 percent over the period.[13]

At the same time, bonds were far less volatile, though there were still periods of negative returns (Figure 3). Over the past 40 years, government bonds averaged an average real annual return of 2.44 percent, while corporate bonds averaged 3.46 percent.[14] An individual who combined the two would have seen an average annual real return of 2.93 percent.

Finally, it should be noted that bond and stock returns tend to move in opposition to each other. When stocks decline, bond returns tend to rise. This means that a mixed portfolio, combining investment in both stocks and bonds, can help mitigate risk.

Allowing younger workers to privately invest a portion of their Social security taxes would expose them to a degree of risk. Effectively, they would be trading the political risk of an underfunded Social security system for the market risk of private investment.

Opponents of personal accounts suggest that this market risk would inherently leave those workers worse off. But would it?

## Private Investment vs. Social Security

In 2005, scholars at the Cato Institute proposed a Social Security reform plan that would have phased out government-provided retirement benefits while allowing younger workers the option to privately invest half of their payroll taxes (6.2 percent of covered

Figure 2
Annual Real Rates of Return DJIA
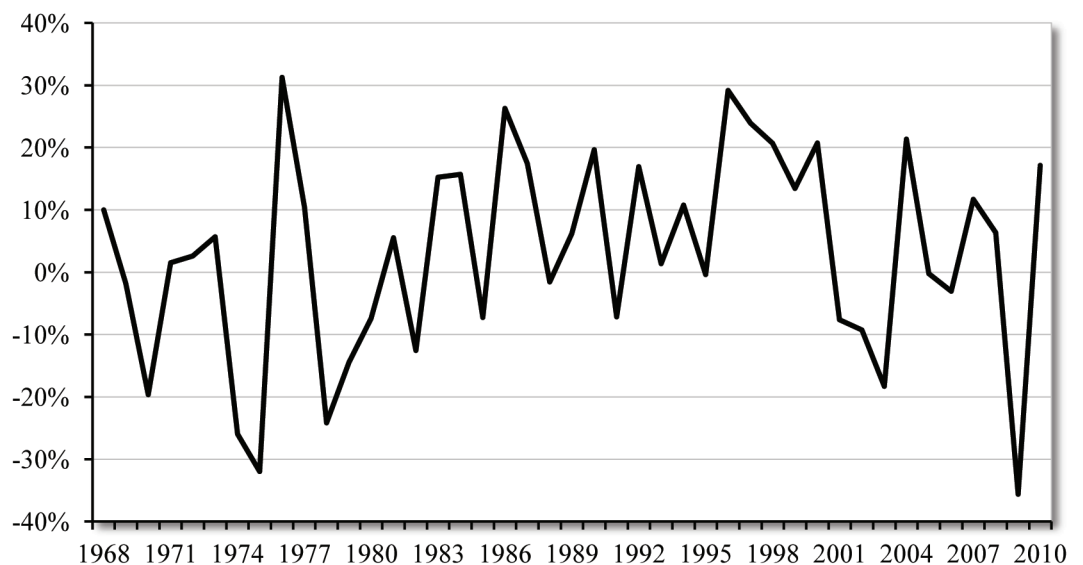
Source: Author's calculations based on data from EconStats, "Equity Index Data," http://www.econstats.com/eqty/eqea_mi_3.htm.

Figure 3
Real Rate of Return: Package of Half Corporate and Half Government Bonds
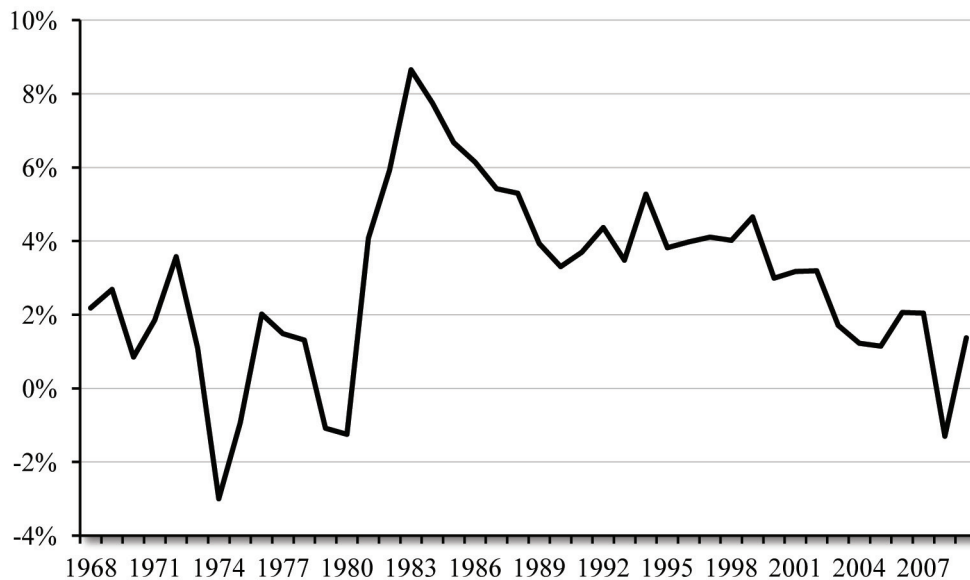
Source: Author's calculations using data for Moody's seasoned AAA bonds and Treasury constant maturities, 10-year nominal bonds, "Selected Interest Rates (Daily) - H.15," http://www.federalreserve.gov/releases/h15/data.htm.

wages) through personal accounts. While the proposal would not have affected benefits for individuals 55 or older, and would have been gradually phased in on a voluntary basis for younger workers, eventually workers would have relied on the the funds in their personal accounts for their entire retirement income.

Given the recent poor performance by private capital markets, what would have happened to workers who chose to invest privately rather than relying on Social Security? Since it is impossible to predict future investment returns, the best way to make this comparison is to look backward in time, assuming that the Cato plan had been in effect over the last 40 years.

For purposes of this experiment, let us posit three hypothetical individuals each of whom retired on November 7, 2011. One is a high-income worker whose last salary was equivalent to the 2011 Social Security salary cap of $106,800. The second is a middle-income worker whose final salary was equal to the median U.S. household income of $49,445. And, the last was a low-income worker who earned half the median income of $24,723.

Each of these workers was assumed to have begun working in 1968. In order to keep their wages consistent over time, their wages were backed down from current levels each year by the rate of average U.S. wage growth. Thus, when the high-income worker began work, he earned $11,662; the middle-income worker earned made $6,300; and the low-income worker earned $3,100.

Each worker was assumed to have taken advantage of the personal account option under the Cato proposal, and contributed half of the Social Security payroll tax each year to their private account, with the remainder of the payroll tax continuing into Social Security to help finance the transition, as well as to pay for survivors and disability benefits.[15]

Investments were assumed to have been made on December 31 of each year, except

A mixed portfolio, combining investment in both stocks and bonds, can help mitigate risk.

for the final payment which was made on November 7, 2011. This lump-sum investment does somewhat oversimplify the model, since in reality the worker would be investing on each pay period, or roughly every two weeks. However, the tiny changes in returns over two-week periods would not significantly change the outcome.

Within the personal account, we assumed three possible investment portfolios. A high-risk/high-return portfolio consisting of 100 percent stocks; a medium-risk/medium-return portfolio of 50 percent stocks and 50 percent bonds, and a low-risk/low-return portfolio consisting entirely of bonds. Stock investments were assumed to be in an index reflecting returns to the S&P 500.

For the bond fund, the investment package was comprised of 50 percent U.S. Treasury bonds and 50 percent Moody's AAA corporate bonds. For the government bond component, the worker would invest in 10-year bonds annually, so there would be different cohorts of 10-year Treasury bonds maturing in successive years. This system of rolling annual contributions and the returns of maturing bonds into new 10-year bonds would continue until the last decade before retirement. Since, in order for the potential retirees to have all of their savings available upon retirement, they cannot

invest in bonds that will mature after they retire, it was assumed that they invested in bonds with steadily decreasing years to maturity, telescoping from 10-year bonds down to 7-, 5-, and 3- year bonds.

From 2009 onward, it was assumed that new contributions to personal accounts simply remained in cash, since the yields on a one-year government bond are less than 1 percent, and the volatility of the stock market would argue against putting investing in stocks so close to retirement.

Administrative costs were assumed to equal to 25 basis points, which was assessed each year on December 31. This is consistent with estimates made by the Social Security Administration's actuaries in scoring private account proposals.[16]

Figure 4 compares the projected accumulation in the personal account for a middle-income worker with the accumulation that would have occurred if the same level of contribution had earned the hypothetical return that this individual could expect from Social Security. Clearly, the worker would have seen a significant decline in accumulated assets during the market declines of 2001–2002 and 2008–2009. However, despite these losses, the worker would always be better off than if he or she had received Social Security's rate of return. Thus, even

Table 1
Monthly Retirement Benefit: Private Investment vs. Social Security

Investment Package	Monthly Benefit		
	Wealthy	Average	Poor
Stocks	$4,586.00	$2,621.00	$1,287.00
50/50	$3,562.00	$2,067.00	$1,096.00
Bond	$2,539.00	$1,565.00	$896.00
Current Social Security	$2,033.00	$1,358.00	$891.00

Source: Author's calculations using data for Moody's seasoned AAA bonds and Treasury constant maturities, 10-year nominal bonds, "Selected Interest Rates (Daily) - H.15," http://www.federalreserve.gov/releases/h15/data. htm;"Compound Annual Growth Rate (annualized return), Moneychimp, http://www.moneychimp.com/features/market_cagr.htm; "Annuity Calculator Single Life Income (SL)," Immediate Annuities, http://www.immediateannuities. com; and "Social Security Quick Calculator," Social Security Administration, http://www.ssa.gov/oact/quickcalc/.

Figure 4
Accumulation of Average-Wage Earner's Retirement Account
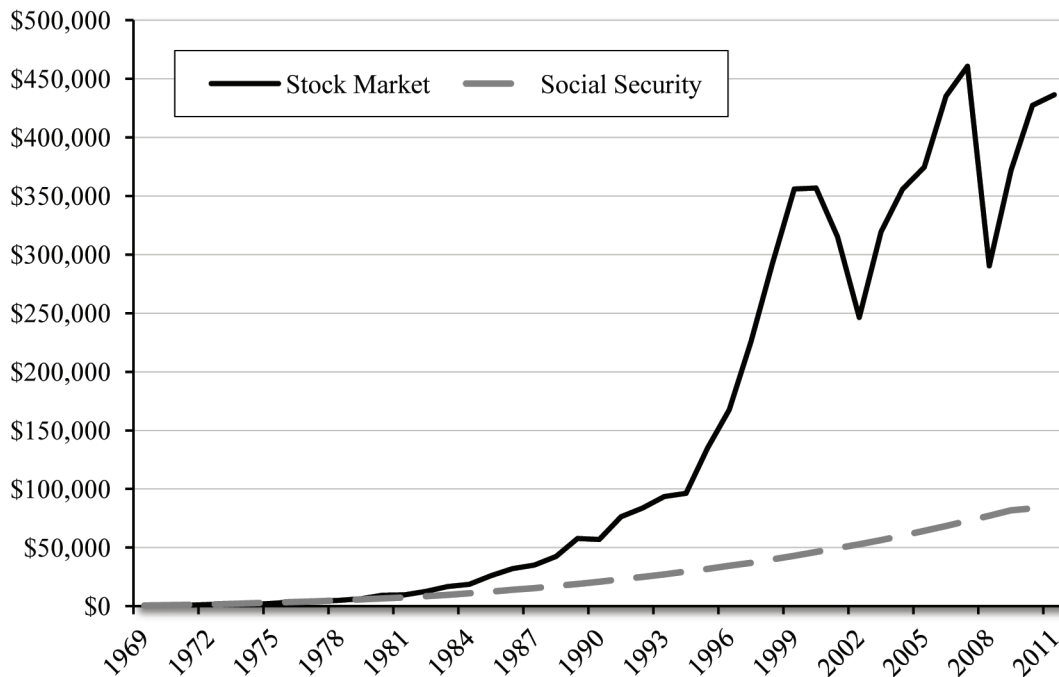
Source: Author's calculations using "Compound Annual Growth Rate," Moneychimp, www.moneychimp.com/features/market_cagr.htm; and "Contribution and Benefit Base," and "Social Security and Medicare Tax Rates" from the Social Security Administration website.

if the worker had retired at the nadir of the decline, private investment would have outperformed Social Security. Moreover, while the accumulation would not yet have returned to its 2005 high, most of the losses would have been recouped by subsequent market gains.

What would this mean in terms of actual retirement benefits? The accumulation in the individual's account was used to purchase a lifetime annuity. With a life annuity such as Social Security, the retiree can never outlive the monthly income. A 6 percent charge was assessed as the cost of annuitization.

Table 1 and Figures 5, 6, and 7 show the outcomes for each hypothetical individual under each of the three possible investment scenarios, compared with the benefits that the individual could expect to receive from Social Security. Social Security benefits are calculated using the Social Security administration's "benefits calculator," with the

ultimate wage in each scenario used as the last earned wage in the preceding year, and assume that full Social Security benefits are paid in the future, without change.[17]

In every case, a worker would have received higher monthly benefits from private investment than from Social Security. In fact, even in the worst-case scenario, a low-wage worker who invests entirely in bonds, the worker does no worse than Social Security.

A Few Caveats

In looking at these results it is important to realize that past performance is no guarantee of future returns. In fact, actuaries for the Social Security Administration estimate that future equity returns will average around 6.5 percent annually, somewhat below the historical average.[18] Of course, Social Security's future rate of return will also

Social Security cannot pay all promised benefits with currently projected revenues.

Figure 5
Monthly Retirement Benefits by Investment Package for High-Income Individual
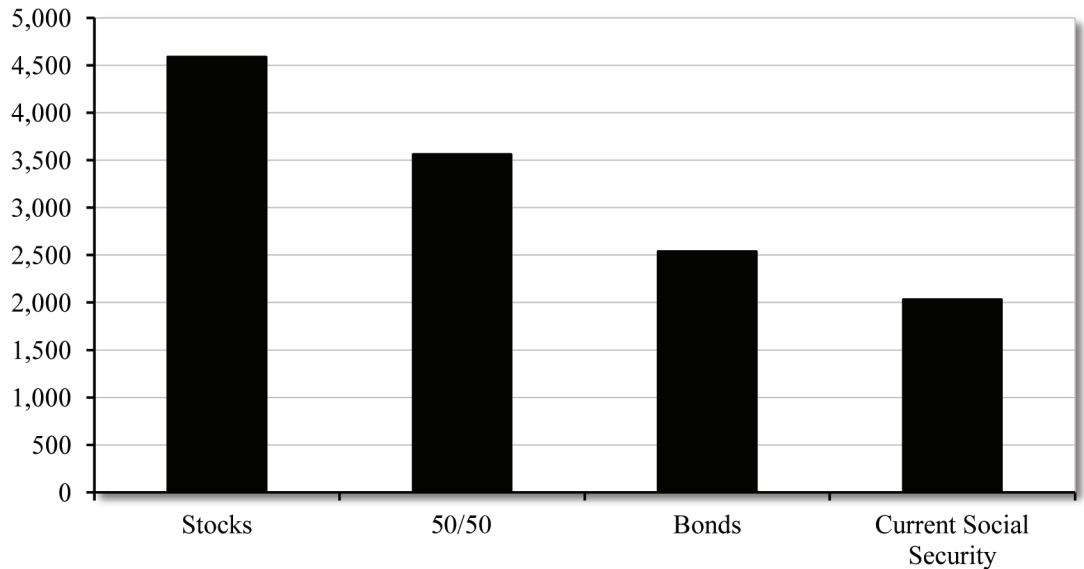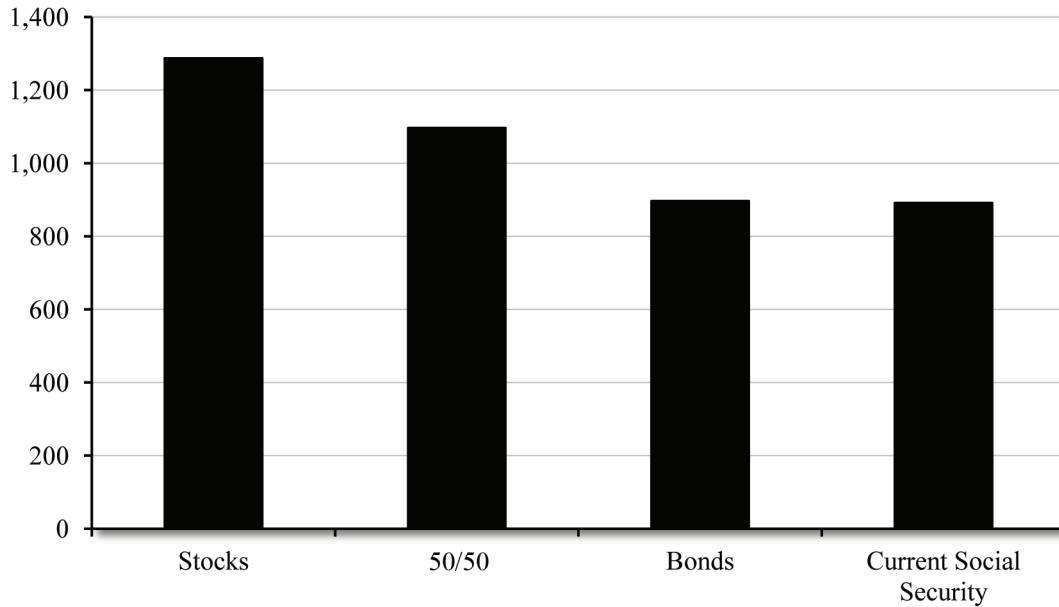

Source: Author's calculations using data for Moody's seasoned AAA bonds and Treasury constant maturities, 10-year nominal bonds, "Selected Interest Rates (Daily) - H.15," http://www.federalreserve.gov/releases/h15/data.htm; "Compound Annual Growth Rate (annualized return), Moneychimp, http://www.moneychimp.com/features/market_cagr. htm; "Annuity Calculator Single Life Income (SL)," Immediate Annuities, http://www.immediateannuities.com; and "Social Security Quick Calculator," Social Security Administration, http://www.ssa.gov/oact/quickcalc/.

Figure 6
Monthly Benefits by Investment Package for Medium-Income Individual
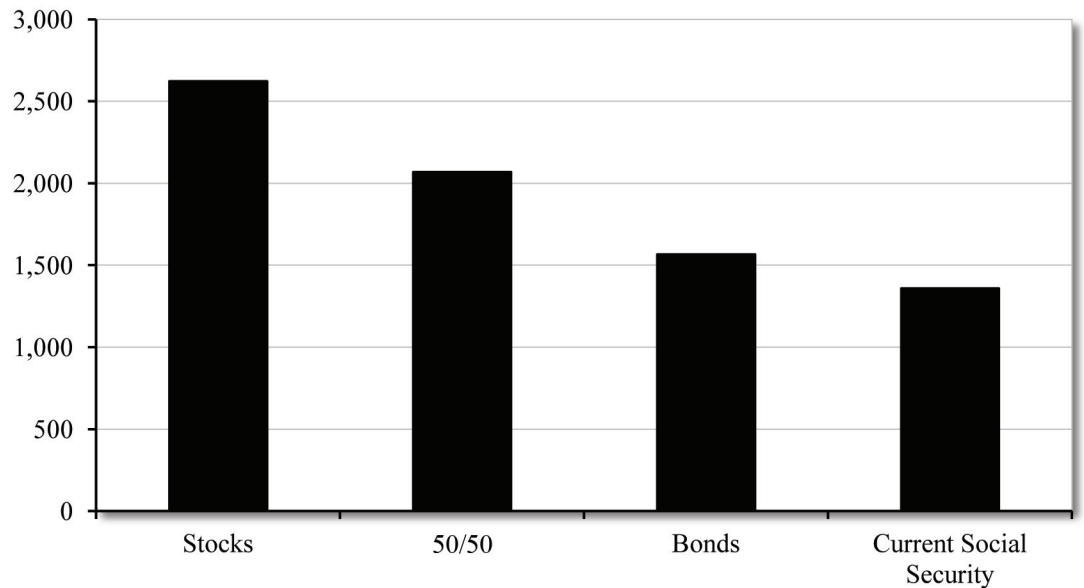
Source: Author's calculations using data for Moody's seasoned AAA bonds and Treasury constant maturities, 10-year nominal bonds, "Selected Interest Rates (Daily) - H.15," http://www.federalreserve.gov/releases/h15/data.htm; "Compound Annual Growth Rate (annualized return), Moneychimp, http://www.moneychimp.com/features/market_cagr. htm; "Annuity Calculator Single Life Income (SL)," Immediate Annuities, http://www.immediateannuities.com; and "Social Security Quick Calculator," Social Security Administration, http://www.ssa.gov/oact/quickcalc/.

Figure 7
Monthly Retirement Benefits by Investment Package for Low-Income Individual

Source: Author's calculations using data for Moody's seasoned AAA bonds and Treasury constant maturities, 10-year nominal bonds, "Selected Interest Rates (Daily) - H.15," http://www.federalreserve.gov/releases/h15/data.htm; "Compound Annual Growth Rate (annualized return), Moneychimp, http://www.moneychimp.com/features/market_cagr. htm; "Annuity Calculator Single Life Income (SL)," Immediate Annuities, http://www.immediateannuities.com; and "Social Security Quick Calculator," Social Security Administration, http://www.ssa.gov/oact/quickcalc/.

be lower than in the past, since the worker-to-retiree ratio is continuing to decline and Social Security cannot pay all promised benefits with currently projected revenues.

In addition, some observers also argue that in looking at future equity returns those returns should be "risk-adjusted." That is, a penalty should be subtracted from the expected returns of riskier investments to reflect the higher risk that they carry. It is suggested that this allows for a fairer, "apples-to-apples" comparison of returns.[19] Taking this line of reasoning to its logical conclusion suggests that the risk-adjusted return on all investments should be the same as the bond rate of return.

On the other hand, workers receive whatever return they receive, not a return reduced by risk adjustment. Risk adjustment may measure a psychological factor about the desirability of various investments—how people "feel" about those investments—but

they do not measure the return that people actually receive. If a stock sells for 10 percent more this year than it did last year that is a 10 percent return no matter how people perceived the risk of that investment. Stephen C. Goss, the Social Security Administration's chief actuary, provides this useful analogy:

> Consider a similar simplification where meteorologists collapse two distinct dimensions, temperature and wind velocity, into the "wind chill" factor, or "wind adjusted" temperature. The approach is based on human perception, indicating that a temperature of, say, 40 degrees with a wind of 20 mph "feels" the same as a temperature of 25 degrees with no wind. This may be a useful construct for some purposes, but you will wait a long time if you try to freeze water in 40 degrees with a 20 mph wind.[20]

The argument that private investment is too risky compared with Social Security does not hold up.

Regardless of which of these approaches is preferable, the analysis above, by including an all-bond portfolio, provides a risk-adjusted returns scenario.

A number of analysts have also suggested that any estimate of rates-of-return to individual accounts must also account for the cost of paying off currently accrued obligations and making the transition to a funded system. If, as in the analysis above, younger workers had been allowed to divert 6.2 percentage points of their wages to a personal account, those taxes would no longer have been available to finance the benefits of those retired individuals who were already receiving Social Security.

On the surface, this is simply a straightforward assertion that what counts is not the gross returns to a worker's account, but the net return after deducting all costs, including the cost of transition. To cite a crude example, if an individual received a 5 percent return on the investments in his or her account, but those investments were then taxed at a rate of 5 percent in order to pay for the cost of the transition, the worker would not actually realize that 5 percent return.

However, the degree to which this is true would be a reflection of how such a transition is designed. For example, financing the transition through increased taxes is hardly the optimum approach. A much better approach would be to reduce current government spending. And, to the degree that the transition were financed through higher taxes, those taxes would be most likely to fall on high-income workers. As the examples above illustrate, for those individuals, even if a substantial portion of their returns were ultimately taxed away, their rate of return would still exceed Social Security.

Finally, it is important to note that the examples above were modeled on single male workers. Results would likely vary for other situations, especially for low-wage, single-earner couples, who benefit most from redistribution within the current Social Security system. However, those couples account for less than 13 percent of Social Security ben-eficiaries, and that proportion is declining.[21] And, it is certainly possible to devise a system of personal accounts that protects those rare cases.

Conclusion

By its nature, private capital investment contains a degree of risk. The returns on stocks and bonds can obviously go down as well as up. Opponents of personal accounts have suggested that this means, *ipso facto*, that seniors would be left in poverty.

Of course, traditional Social Security is not without its own risks. Already the Social Security system provides a rate of return well below historic rates of return from private market investment. Moreover, the system cannot pay the promised level of benefits given current levels of revenue. Since Social Security benefits are neither guaranteed nor contractual, those benefits are almost certain to be reduced in the future. Workers who chose to invest privately, rather than rely on traditional Social Security, would therefore be exchanging the political risks of an under-funded Social Security system for the market risks of private investment.

A fair comparison of actual investment returns over the past 40 years to the benefits provided under Social Security shows that a system of private investment will, in fact, provide significantly higher rates of return than the current Social Security system, meaning that the vast majority of younger workers would be better off switching to such a system.

While there are limits to this type of analysis, it clearly shows that the argument that private investment is too risky compared with Social Security does not hold up. With Social Security running a cash-flow deficit today and facing a $21 trillion shortfall in the future that will make it impossible for it to pay promised benefits, private investment and personal accounts should be part of any discussion about reforming the troubled system.

Notes

1. Remarks of President Barack Obama, "Weekly Address: President Obama Promises to Protect Social Security from Republican Plans to Privatize It," The White House Office of the Press Secretary, August 14, 2010, http://www.whitehouse.gov/the-press-office/2010/08/14/weekly-address-president-obama-promises-protect-social-security-republic.

2. Jay Heflin, "Pelosi Blasts Republican Plan to Privatize Social Security," *Hill*, July 28, 2010.

3. Congressional Budget Office, "The Budget and Economic Outlook: Fiscal Years 2011–2021," January 2011.

4. "The 2011 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds," Social Security Board of Trustees, 2011, p. 9, http://www.ssa.gov/oact/TR/2011/tr2011.pdf.

5. "2010 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds," p. 9.

6. "Budget of the United States Government, Fiscal Year 2000: Analytical Perspectives," p. 337.

7. Discounted present value of Social Security's liabilities over an infinite horizon. "The 2011 Annual Report of the Board of Trustees," p. 9, http://www.ssa.gov/oact/TR/2011/tr2011.pdf.

8. Ibid., p. 14.

9. Ibid., Table VI.4, "OASDI and HI Annual Income Rates, Cost Rates, and Balances."

10. See Michael Tanner, "Keep the Cap: Why a Tax Increase Will Not Save Social Security," Cato Institute Briefing Paper no. 93, June 8, 2005.

11. "Annual Returns on Investments," NYU Stern School of Business, 2010, http://people.stern.nyu.edu/adamodar/pc/datasets/histretSP.xls.

12. The 2011 Annual Report of the Board of Trustees," Table V.B2 and Table V.B1.

13. Author's calculations, using "Annualized Re-turn of the S&P 500," Moneychimp, using data from Robert Schiller and Yahoo Finance, www.moneychimp.com/features/market_cagr.htm.

14. The author's calculations were made using government and corporate bond data. See "10-Year Treasury Rate" and "Moody's Yield on Seasoned Corporate Bonds, All Industries, AAA," Board of Governors of the Federal Reserve System, September 7, 2011, http://www.federalreserve.gov/releases/h15/data.htm.

15. This effectively accepts the conceit that there is an employer and employee half of the payroll tax. Most economists would agree that, over the long term, employees bear the entire cost of the payroll tax. At the time the Cato proposal was written, half the payroll tax equaled 6.2 percent of wages. However, for our hypothetical worker, that would not have been the case for years prior to 1983. Therefore, for purposes of this experiment we used half of whatever the actual payroll tax was in the year covered.

16. This is a conservative estimate. Experience with broad-based retirement funds such as TIAA-CREF and the federal Thrift Savings Program suggests that administrative costs could be as low as 10-20 basis points.

17. Social Security Administration, "Social Security Quick Calculator," http://www.ssa.gov/OACT/quickcalc/index.html.

18. Stephen C. Goss, "Equity Yield Assumptions Used by the Office of the Chief Actuary, Social Security Administration, to Develop Estimates for Proposals With Trust Fund and/or Individual Account Investments," Social Security Advisory Board, May 8, 2001.

19. Peter Diamond and Peter Orszag, "Reducing Benefits and Subsidizing Individual Accounts: An Analysis of the Plans Proposed by the President's Commission to Strengthen Social Security," Center on Budget and Policy Priorities and the Century Foundation, June 2002.

20. Stephen C. Goss, "Another View on the Equity Premium," presentation to a conference on *Risk Transfers and Retirement Income Security*, Pension Research Council, April 23, 2002.

21. The 2011 Annual Report of the Board of Trustees," Table V.C4, p. 5.