

**The Social Mutual Fund:
A Proposal for Social Security Reform**

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The aging of the American population, as a consequence of the long term trend toward lower fertility and declining mortality, poses the most significant challenge to our retirement system in the coming decades. We are shifting from an economy in which the dependent population consists mainly of children, to one in which the dependent population will be predominantly the elderly. The difficulty of managing that shift arises from the fact that whereas children are supported in large degree by direct income transfers within the family, grandparents are more typically supported by indirect transfers using either the government or financial markets as intermediary. The shift toward a relatively larger elderly population thus necessarily requires an expansion of either government or financial market distribution mechanisms, or both. In the future, a higher fraction of total consumption will necessarily be paid for with “unearned” income, and a lower fraction with “earned” income, simply because a higher fraction of total consumption will be flowing to the elderly. The demographic challenge is to devise distribution mechanisms to effect that transfer most efficaciously.

Social Security is only one of the mechanisms that currently channel income to the elderly. The larger retirement system includes also private pensions, individual savings, and homeownership. Broadly speaking, private pensions and individual savings give a share of the income accruing to capital (profit), homeownership gives a share of the income accruing to non-produced factors (rent), and Social Security gives a share of the income accruing to labor (wages). These three parts of the U.S. retirement system appear to be of approximately equal importance in the aggregate, though Social Security is relatively more important to lower income groups, and private pensions and saving are more important to higher income groups. About 80% of households over 65 own their

own homes.

The point to emphasize is that the projected aging of the population is putting pressure on all the mechanisms through which non-workers gain access to current income, not just Social Security. The economic (and political) question is how that pressure should be spread among the various component parts of the retirement system. In this regard, it is significant that the elderly (65 and over) share of the population is projected to increase by 80% (from 12.5% in 1995 to 22.5% in 2070) but Social Security benefits are projected to increase by much less. In 1997, Social Security benefits were 4.66% of GDP and were projected to rise to 6.68% in 2070, for an increase of only 43.3%. Even this number overstates the increase in real burden because taxation of benefits already reduces after-tax benefits by .09% of GDP, a fraction projected to rise to .32% in 2070, so that actual spendable benefits rise from 4.57% of GDP currently to 6.36% in 2070 for an increase of 39.2%, or about half the increase in the elderly share.

Social Security is not being asked to do very much to meet the demographic challenge, and yet official reports tend to indicate that even this much is too much. According to the 1997 Trustees Report, projected income falls short of projected cost by 2.23% of taxable payroll, and the Trust Fund that is being built up with current program surpluses will be depleted by 2029. Put another way, the present value of projected Social Security income is only about 86% of the present value of the benefits it is projected to pay. This apparent shortfall is the proximate motivation for the various reform proposals currently under discussion.

The most significant reform currently on the table involves investing some portion of Social Security revenues in private equity. What is too often missing from

discussions about this class of proposals is recognition that the financial system is already being called upon to carry the substantial weight of demographic change, if only because Social Security is not expanding in line with the target population. Investing Social Security revenues in private equity would put even more pressure on the financial system. In the limit, proposals to completely “privatize” Social Security can be understood as proposals to eliminate one entire class of claims, those on wage income, and to place the entire burden of retirement support on profit and rent claims. The unstated premise of such proposals is that there is sufficient elasticity in the supply of claims to profit and rental income to meet the demand displaced by a reduction in the supply of claims to wage income.

The proposal outlined below takes a different approach. Like it or not, it seems clear that claims to labor income must play a significant role in providing for future retirement support, if only because that is where most of the income is. Currently employee compensation is about 72.4% of national income, while corporate profit, rental income, and net interest together comprise 19.3%. Today, when all retirement income mechanisms are coming under pressure, is not the time to discard one of the three main legs of the system. In this respect, the insolvency problem facing Social Security is most usefully viewed as a symptom of the inadequacy of existing institutional mechanisms through which claims on labor income are made available to fund retirement security. The following proposal to reconstruct Social Security as a Social Mutual Fund is, at root, about finding the appropriate modern institutional framework for carrying out the traditional goals of the Social Security program.

I. What is Social Security?

Abstracting from its disability and life insurance aspects, Social Security can be understood as a financial intermediary that specializes in providing two distinct kinds of financial services. First, Social Security is a social mutual fund that holds as its primary asset claims to the labor income accruing to current and future working generations, and issues as its primary liability life annuities that provide retirement income to the elderly. Second, Social Security is a social income hedging scheme that pays benefits to those who suffer below-average lifetime incomes, benefits paid in the form of retirement incomes that are larger relative to the recipient's FICA tax contributions than the incomes provided to those who enjoy above-average lifetime incomes.

On both dimensions, this characterization of Social Security is likely to be fairly controversial. Most commonly Social Security is viewed, by both its supporters and its critics, as a transfer program that channels income from the young to the old, and from high earners to low earners. The common view is not wrong, only incomplete. The main advantage of the broader view adopted here is the deeper insight afforded into the underlying logic of the program and therefore also into the possibilities for reform. Toward this end, it is useful to treat the two dimensions of the program separately.

First, Social Security is a social mutual fund. The first difficulty with understanding it as such is that there is no market for the underlying asset, which is a claim to labor income. However, that fact—a fact that arises from the laws against slavery—does not prevent us from pricing the asset if only we are prepared to establish derivative markets in what Robert Shiller (1993) has called index perpetual claims and perpetual futures. In current practice the underlying asset is not priced, but in principle it

could be. The second difficulty with understanding Social Security as a mutual fund is that the value of the program's liabilities is not pegged in any very direct way to the value of its assets. However, it needs to be recognized that, in the past, when growth prospects appeared rosy, benefits were ratcheted upward, and when growth prospects appeared more gloomy, benefits were cut. To be sure, these adjustments involved the political process, and were implemented by changing the benefit formula not by any automatic revaluation of liabilities in line with shifting asset values. However, given that the modern technology for pricing Social Security assets was not then available, political adjustments were probably the best that could be done; today we could do better. In principle Social Security is already a mutual fund, but that fact has been obscured by operational details inherited from the past.

If Social Security were only a mutual fund, one would expect the distribution of benefits to track the distribution of contributions, but it doesn't. The reason is that Social Security is also a social income hedging scheme. The main difficulty with understanding it as such is our unfamiliarity with mechanisms for hedging long streams of income. Even in today's sophisticated financial markets, we are used to thinking of insurance against fire, or theft, or accident, but not of insurance against a low income stream realization. However, as Shiller (1993) also points out, markets in index perpetual claims and perpetual futures could in principle be established and used by participants to hedge their future income. In such markets, individuals might sell short their own income streams and use the proceeds to buy shares in the average income stream. The effect of such insurance would be to transfer income from those receiving above-average incomes to those receiving below-average incomes. In the absence of organized markets, Social

Security provides income insurance by increasing the annuity benefits of those with low lifetime incomes relative to those with high lifetime incomes. If Social Security were only an income hedging scheme, one would expect everyone to receive the same annuity benefit. Because it is also a mutual fund, higher income contributors receive somewhat larger annuity benefits.

Once one views Social Security as a social mutual fund combined with an income hedging scheme, the most commonly mentioned problems facing Social Security appear in a different light. First, the rate of return problem. Viewed as a pay-as-you-go pension scheme, Social Security enjoys a rate of return equal to the growth rate of the wage bill (population growth plus productivity growth), which makes it seem an inferior investment. From the point of view adopted in this paper, the problem with the standard analysis is that it treats the FICA tax as entirely contributory whereas, in fact, some portion represents a return to society's investment in the individual, and only the remainder represents the individual's own contribution. Indeed, some such conceptual distinction (albeit primitive) seems to be implied by the longstanding accounting distinction between employer's and employee's contribution.

Second, because the benefits paid to higher income participants are lower relative to their contributions than are the benefits paid to lower income participants, Social Security has seemed a particularly inferior investment for higher income participants. (This perception has played a role in limiting increases in the so-called contribution cap, with the consequence that an increasing amount of total income falls above the cap and is not taxed.) From the point of view adopted in this paper, the problem with the standard analysis is that it neglects the value of the income insurance provided by Social Security

but not provided by any other pension scheme. After the fact, insurance always looks like a bad deal for those who never suffer an insured hazard, and a good deal for those who do. A correct valuation of the benefits of income insurance would therefore take an ex ante point of view.

Third, for lack of the appropriate technology to value the assets and liabilities of the Social Security program, the annual Trustees Report has depended on projections of demographic and economic variables over the next 75 years, with the overall balance between cash inflow and outflow summarized by discounting flows back to the present using the projected real government bond interest rate (2.3%). It is this procedure that lies behind official estimates of Social Security's insolvency. From the point of view adopted in this paper, there is strong reason to think that the official accounting procedures undervalue assets relative to liabilities, at least as compared with market pricing. They probably overestimate the value of liabilities by treating them in effect as if they were government bonds, even though history tells us that in practice benefits depend on productivity growth. They probably also underestimate the value of assets by adopting excessively conservative assumptions about future growth in an attempt to assure solvency. What value would market pricing place on the assets of the Social Security system? There is no need to build a theoretical model for the answer. We need only read the newspapers for evidence about how markets are valuing other income flows. Asset prices of all kinds have been trending upward rapidly, and there is no reason to think that the price of index perpetual claims on labor income would be an exception, were they traded.

Viewed as a mutual fund, Social Security's main problem is neither its supposed

low rate of return nor its supposed insolvency, but rather the deteriorating tax base dedicated to supporting the program. Currently, taxable payroll is about 40.5% of GDP, but it is projected to decline to only 34.8% of GDP by 2070, a decline of 14%. The projections extrapolate two historical trends. First, non-taxable fringe benefits (which ironically include private pension contributions) have tended over time to absorb a larger fraction of total employee compensation. Second, in recent years the widening of the distribution of income has had the effect that a larger fraction of total wage income has fallen above the contribution cap and so escaped taxation. From a mutual fund point of view, the projected decline in the tax base represents a dilution of social ownership in the labor income stream to the advantage of other claimants. It is somewhat puzzling that this projected dilution has not received more attention. One reason probably is that the mutual fund character of Social Security has not been widely perceived, with the consequence that the general interest in protecting the asset base of the fund against erosion has not led to corrective action. To the extent that this problem and other problems facing Social Security stem from the obscurity of its operations, the road forward for Social Security reform lies in recognizing its mutual fund character more explicitly.

II. The Social Mutual Fund

Social Security is already a social mutual fund de facto. One direction for reform is to reconstruct the existing system as a Social Mutual Fund de jure. It is a direction that leaves room for a variety of different concrete proposals, depending on how far one presses the mutual fund concept. The minimal reform, for example, might involve little

more than a change in accounting, while the maximal reform might involve a reconstructed Social Security offering a range of annuity and insurance products designed to meet the risk preferences of the citizenry and their changing needs over their lifetimes. The middle ground between these extremes might involve Social Security offering a more limited range of products, focused particularly in areas where Social Security enjoys comparative advantage over private financial institutions. For example, the universality of the system allows it to offer fair annuities, and the natural indexation of its asset base allows it to index these annuities to inflation. Further, universality plus the connection to government allows Social Security to offer income insurance because it can ensure contract performance by high earners. In both respects, Social Security is able to provide financial services that private intermediaries cannot provide on account of adverse selection and moral hazard. It is to be expected that a reconstructed Social Security would continue to complement the services provided by private financial intermediaries, not compete with them.

At a minimum, the SMF reform idea involves replacing traditional asset valuation procedures with market valuation, and replacing periodic political recalibration of benefits with more automatic revaluation by including market prices in the benefit formula. Initially, one could adopt such a reform merely as a form of parallel accounting, as a check on traditional procedures. For example, currently the Social Security Administration keeps track of the FICA contributions made by each individual. The new accounts might distinguish what portion of an individual's FICA tax is simply a return on society's investment in that individual, what portion goes to buy new shares, and what portion represents settlement of the income hedging contract. Similarly, currently the

SSA reports accrued benefits on an annuitized basis. The new accounts might also report balances and rate of return information, along with projections about the future based on alternative macroeconomic growth scenarios. The main objective of the new accounts would simply be to give Social Security the look and feel of a mutual fund, but even this simple change is likely to engender a dynamic toward rationalization of the system over time. Even the minimal reform would likely have significant impact, by bringing perceptions of how the system works more in line with how it actually does work.

Even minimal reform would require establishing new derivative markets in index perpetual claims and perpetual futures for the purpose of price discovery. Toward this end, a new division of the Social Security Administration should be created to act as market maker for these derivative markets. In the index perpetual claims market, for example, shorts might promise to make payments scaled to the value of aggregate labor income, and might be required to put up margin to ensure performance. The long side of the contract would thus be an investment, a kind of variable coupon bond. The price established in this market would be the present value of claims to labor income, which is exactly the price needed to value the assets of the SMF. Alternatively, or in addition, in a perpetual futures market, shorts might promise periodic mark-to-market cash settlement (Shiller 1993, eq. 3.1). In this settlement, the short owes money to the extent that the return on labor (income plus futures capital gain) exceeds the return on an alternative asset. So long as the alternative asset enjoys a liquid market return, the futures price should be equal to the market price of an index perpetual claim, which again is exactly the price needed to value the assets of the SMF. Finally, one would also need derivative markets in individual labor incomes, or at least individual classes of labor income, in

order accurately to account for the income hedging component of Social Security.

Having established the basic market accounts, and the derivatives markets they require for price discovery, one could go further. If, as seems likely, market pricing yields the result that Social Security assets are sufficient to cover Social Security liabilities, it would be a relatively simple matter to convert earned benefits into shares in the Social Mutual Fund. And one could go further still. Currently, Social Security offers a particular kind of annuity, the same for everyone. The new Social Mutual Fund might establish different types of funds with different risk and return characteristics tailored to the needs of different populations. To do so, it need only divide the cash flow accruing from its assets into different tranches, and use these different tranches as the building blocks of the different funds. Along the same lines, the Social Mutual Fund might break out the income hedging product as a distinct financial service and provide insurance specifically tailored to the needs of different populations.

To the extent that the SMF evolves in the direction of providing multiple products, it will rely even more heavily on the derivatives markets, and for more than mere price discovery. Because there is no market in the underlying asset of the SMF, the Fund cannot provide the liquidity that mutual fund investors have come to expect unless it is able to operate on its own account in derivative markets. Indeed, during an initial startup phase, one cannot expect much liquidity at all, and limits may have to be placed on trading, both in and out of the SMF and between its family of funds. Over time, trading limitations may be relaxed somewhat, though likely significant restrictions will remain permanently. It is to be expected that such limits will pose little obstacle to acceptance because they are already common in private applications (and for the same

reason that assets are illiquid), and are anyway less restrictive than the limits imposed on existing Social Security accumulations.

Just as the new derivative markets may have additional advantages for the SMF, so too SMF involvement can be expected to have additional advantages for the new derivative markets since SMF operations are likely to provide the kind of volume that will attract private investors and speculators. An inherent weakness of the index perpetual instrument stems from reliance on performance of the short side, and mechanisms that ensure performance (such as margin requirements) have the additional effect of discouraging the short interest that is required for a balanced market. From this point of view, the great strength of the markets proposed here is that the SMF already “owns” a large long position, and thus is in a position to take a perfectly hedged short position. One would not expect any weakness on the short side since the SMF can always meet cash-out demand with shares in one of its mutual funds.

III. Conclusion

Enough has been said to make it clear that there are no insuperable technical obstacles standing in the way of reconstructing Social Security explicitly as a Social Mutual Fund. Indeed, by comparison with proposals that involve privatization, the transition to a SMF is likely to be relatively painless. Under the SMF proposal, there is no need to raise taxes or cut benefits in order to build up a fund for investment in private equity. The SMF proposal works essentially by recognizing that the desired fund already exists, and is already invested in the productive labor assets of the U.S. economy. Ease of adoption is an attractive feature of the SMF proposal, but the case for the SMF does

not rest just on that.

In the final analysis, the case for the SMF must rest on its ability to help us meet the looming demographic challenge to our retirement system. Proponents of privatization often point out, quite correctly, that our ability to support the burden of an enlarged elderly non-working population depends on increasing the productivity of the future working generation. Where they go wrong is in their too narrow emphasis on private investment in physical capital as the way to achieve increased productivity. In our private enterprise economy, the price of tradable capital assets and of equity claims to those assets are currently sending strong signals about the need to increase investment in order to meet the demographic challenge. At the same time, however, because labor assets are not traded, there is no price signal to inform us of the need to invest in human capital as well as physical capital. Instead, guided by traditional accounting procedures, we are building an enormous trust fund filled with government bonds, which all knowledgeable observers agree does exactly nothing to meet the real economic challenges of the demographic shift.

In this respect, perhaps the most enduring contribution of the SMF will be to provide the kind of information about the value of labor assets that we have found to be indispensable for guiding acquisition and allocation of capital assets. The habit of focusing attention only on capital asset prices made practical sense in a previous age when we had no way of ascertaining labor asset prices, and when human capital was less important quantitatively than it has become in the modern economy. Thanks to modern financial technology, today we can ascertain labor asset prices with at least as much reliability as we can ascertain capital asset prices. Both sets of prices are based on

expectations about an inherently uncertain future, and so both are bound to err. The point is not that market pricing is perfect, but that market pricing of labor assets puts labor's contribution on the same footing as capital's contribution. Even were we not facing the demographic challenge to our retirement system, the SMF reform looks like an idea whose time has come. The demographic shift only makes the reform more urgent.

Traditional Social Security accounting has brought us to the current paradoxical situation in which the demographic challenge shows up simultaneously as a soaring stock market and an insolvent Social Security system. The analysis of this paper suggests that it is a seeming paradox only, an artifact of accounting procedures that were established for the perfectly good reason of ensuring solvency of the system but that are now sending the wrong message. The SMF reform would resolve the paradox, not by abolishing Social Security but by reconstructing it along modern lines to make explicit in the accounting what has always been implicit behind the scenes. Social Security is at root nothing more than a financial intermediary that makes possible what is impossible in the private market place, namely the use of ownership claims on labor to fund retirement security. The SMF proposal would dress that traditional function of Social Security in modern financial garb, and go further to provide also the price signals that are needed to coordinate society's response to the demographic challenge.

References

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