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## **Investing The Social Security Trust Funds In Equities**

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## FOREWORD

President Clinton's State of the Union address placed the restoration of solvency to the Social Security program at the top of the public policy agenda. The 1994-96 Social Security Advisory Council, which was charged with considering options to achieve solvency, was unable to reach agreement on a single solvency plan, and instead advanced three different plans with substantially different features. However, all three plans proposed some form of investment in corporate equities to enhance individual returns on Social Security contributions. Two of the three plans proposed that equity investment take place in individually held private investment accounts. The third plan, the Maintain Benefits with Equity Investment plan, proposed that a percentage of the aggregate trust fund reserves be invested directly in equities rather than through individual accounts.

While the Maintain Benefits plan would retain more of the basic structure of the Social Security program than the other two plans, some have questioned the wisdom of direct government investment in the stock market. The concerns expressed most frequently are that Social Security stock holdings might become so substantial as to threaten the stability of the stock market or result in undue government influence over corporate decisions. This paper by Alicia Munnell, former Assistant Secretary of the Treasury and one of the nation's foremost experts on Social Security, addresses these concerns directly while highlighting some of the advantages of direct investment, primarily that of leveling the playing field for Social Security relative to private pensions and the dramatically lower administrative costs of direct trust fund investment relative to a system of individual accounts. Her careful weighing of the pros and cons of direct trust fund investment in equities provides a lucid and balanced synopsis of the issues that will be contested in the coming debate over Social Security reform.

John R. Gist  
Associate Director  
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## **Executive Summary**

### **Background**

The 1994-96 Social Security Advisory Council, unable to reach consensus on a single plan to reform Social Security, proposed three separate plans to restore the program to solvency over its 75-year actuarial forecasting period. All three plans incorporated some method of investing in corporate equities. Only one plan, the Maintain Benefits plan, proposed investing part of aggregate trust fund reserves directly in corporate equities. This plan has come in for criticism on both economic and political grounds.

### **Purpose**

The objective of this paper is to identify the advantages and potential pitfalls of investing some of the Social Security trust fund reserves in corporate equities. In doing so, it distinguishes and sorts through the issues that pertain to equity investment in general, such as market risk, those that pertain to government holding of equities, such as political influence over corporate governance, and those that apply only to trust fund investments in equity, such as the risk and volatility of payroll taxes.

### **Methodology**

The approach of this study is a reasoned analysis of already published sources and an assessment of relative risks and benefits of different approaches.

### **Principal Findings**

Although investing the Social Security aggregate reserves in equities will have no net impact on economic growth if national saving remains unchanged, it will have the desirable economic effects of shifting the distribution of intergenerational risk-sharing and of leveling the playing field for Social Security relative to other retirement savings programs. Investing the trust funds in equities would also reduce administrative costs substantially relative to a system of individual accounts. However, there are risks associated with investment of the aggregate trust fund in equities, including an increase in the unified budget deficit, potential government influence over corporate decisions, the possibility of reduced returns due to social investing, and a small increase in interest rates relative to returns on equities. These have to be weighed against the dramatic differences in transaction costs between a system of individual accounts and direct trust fund investment.

### **Conclusions**

This study concludes that investment of the Social Security trust fund reserves in corporate equities is, on balance, a reasonable and feasible strategy that would have some desirable economic effects by leveling the playing field for Social Security vis-a-vis other

savings programs and providing a mechanism for intergenerational risk-sharing. The main disadvantages are possible political influence on corporate governance or investment decisions. Ultimately, the decision as to whether to adopt this approach depends on a political judgment of whether the economic advantages outweigh the political turmoil that such a strategy might create.

One group of the Social Security Advisory Council considered, and then recommended for further study, the investment of social security trust fund reserves in private sector equities. This is the first time that an official advisory group has seriously recommended changing the program's investment policy. The development reflects a number of factors. First, in the wake of the 1977 and 1983 Amendments, the program moved from strict pay-as-you-go to the accumulation of significant trust fund reserves and is likely to accumulate even larger reserves in the process of closing the long-run financing gap. With large reserves, investment earnings become an important dimension of any financing scheme. Second, as the social security system has matured and rates of return on contributions have fallen, so-called "money's worth" considerations and questions of intergenerational equity have received more attention. Third, proponents argue that the inability of Social Security to invest in equities endangers it politically compared to private pensions and individuals saving plans. This disadvantage in the arena of public opinion can end up hurting low-income workers who benefit from social security's progressive benefit structure and who are generally not covered by private pension arrangements.

This paper attempts to identify the advantages and potential pitfalls of investing some of the aggregate trust fund reserves in corporate equities. This analysis is conducted against a backdrop where almost all reform proposals include some social security investment in equity through either the trust funds, government-sponsored accounts, or mandated individually managed investments. Thus, the discussion must sort out the issues that pertain to equity investment in general, such as market risk, those that pertain to government holding of equities, such as possible effects on corporate governance, and those that apply solely to trust fund investments in equity, such as volatility in payroll tax rates.

Although a number of proposals incorporate equity investment within the social security program, the following discussion focuses on the three plans formulated by the 1994-1996 Advisory Council since they span the range of alternatives offered by many other commentators.<sup>1</sup> The Maintenance of Benefits (MB) plan is designed to eliminate the

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<sup>1</sup> See the *Report of the 1994-1996 Advisory Council on Social Security* (hereafter SSAC) for full descriptions of the alternative plans. Plans offered by other groups include the Kerrey-Simpson plan (the latest version of a series of proposals to emerge from the deliberations of the Bipartisan Commission on Entitlement and Tax Reform), which cuts the payroll tax and reduces benefits to a level consistent with trust fund solvency, and mandates a 1.5 percent contribution to a personal saving/IRA account. This is similar to the Advisory Council's IA proposal except that it involves deeper benefit cuts and no increase in the employee's tax rate, and it has the trust funds investing in equities. The proposal of the Committee for Economic Development (1997) falls between the Advisory Council's IA and PSA plans. It adds a second tier to a reformed defined benefit system wherein employers and employees would each be required to contribute 1.5 percent of payroll to a personal retirement account owned by individuals and privately managed. Kotlikoff and Sachs (1997) replace the current system with individual accounts but

social security deficit without altering the basic nature of the program. Roughly half the savings comes from long-discussed proposals, such as extending coverage to state and local employees, taxing social security benefits fully to the extent they exceed workers' contributions, incorporating technical corrections in the Consumer Price Index (CPI), and lengthening the averaging period for benefit calculations. To reduce the rest of the financing gap, MB proponents suggested exploring the possibility of investing 40 percent of trust fund reserves in equities; redirecting revenues from the taxation of social security benefits from the Medicare to the social security funds; and if necessary increasing the payroll tax by 0.8 percentage point each on employers and employees starting in 2045, to correct the tendency for the trust fund to drift out of balance by funding the program after the traditional 75-year period.

The Individual Account (IA) plan has two components: it would make changes to balance the existing program, and would create a system of supplementary required savings accounts for all participants. To balance the existing program, it would adopt the MB proposals regarding state and local employees, taxation of benefits, the CPI, and the averaging period. In addition, the IA plan would cut benefits by raising the normal retirement age to 67 faster than under current law and index it to life expectancy thereafter. Finally, it would cut benefits by roughly an additional 20 percent by changes in the benefit formula.<sup>2</sup> As a result, the current 12.4 percent payroll tax rate would be sufficient to cover the reduced program's projected 75-year cost.

The mandatory savings portion of the IA plan would increase the employee's payroll contribution by 1.6 percentage points to fund government-administered individual accounts. Workers would be able to allocate the funds in these accounts among a relatively small number of government-managed index funds. At retirement, the savings would be paid out as an annuity, with payments adjusted for inflation, and added to regular social security benefits.

The Personal Security Account (PSA) plan calls for a dramatic restructuring of the system. It would divert 5 percentage points of the 12.4 percent payroll tax into mandatory "personal security accounts." Unlike the IA proposal, where the accounts would be held by the government and annuitized upon retirement, these accounts would be invested privately at the discretion of the individual, and individuals would have the choice of when and how they are paid out after retirement age.<sup>3</sup> The remaining 7.4 percentage points of the payroll tax would pay for a flat retirement benefit equivalent to

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provides for public management for these accounts. The Feldstein and Samwick (1996, 1997) proposals are similar to the PSA plan, in that they would replace the current defined benefit structure with a system of mandated accounts, individually owned and privately managed, but would not provide a flat benefit in the residual public program.

<sup>2</sup> The 20 percent is an average figure; cuts would be greater for middle and high earners than for low earners.

<sup>3</sup> The PSA plan would permit individuals to have all their accumulated funds paid out in a single lump-sum dispersal.

\$410 per month in 1996 (updated with rising wages) and for survivor and disability benefits. The plan would also close the financing gap through many of the same features as the MB and IA proposals.<sup>4</sup> Finally to cover the substantial transition costs of moving from a pay-as-you-go plan to funded individual accounts, it would impose a 1.52- percent payroll tax for the next 72 years.

All three Social Security Advisory Council proposals involve a substantial buildup of reserves and investment in equities through one mechanism or another. Thus, the question is not whether government-mandated retirement saving will be invested in equities, but rather whether this will occur under the auspices of the current trust funds and defined-benefit social security system, or in the context of one of the defined contribution arrangements. The differences are not as great as they may appear at first. For example, the IA arrangement raises many of the same issues as the trust funds investing in equities, since the government would hold the money and select the stock index funds available for investment.

Similarly, the question of investing in equities is not a debate over whether or not to prefund social security obligations. As just noted, all three plans involve a substantial buildup of reserves and the question of investing the trust funds in equities would not be important except for the large projected increase in trust fund holdings. Policymakers view prefunding as desirable to increase national savings and to avoid big increases in future payroll tax rates. Big rate increases, rather than a lower steady rate, would undermine support for the program, unfairly burden future generations, and create additional economic inefficiency. Likewise, almost everyone acknowledges that national savings is inadequate, and, while no compelling argument exists for increasing national savings through social security, the program may provide a useful vehicle.

The area of dispute is whether social security would be an effective national saving vehicle. If the saving is attempted through the trust funds, some worry that surpluses in the trust funds will simply be used to finance deficits in the rest of the budget. Politically an accounting treatment that separates social security from the rest of the budget may well be a necessary prerequisite to the social security trust funds becoming an effective mechanism to increase national savings. But individual accounts also have their problems. One rationale for social security is that individuals would not save adequately on their own. Thus, people may reduce savings in other areas as they accumulate reserves in their mandated individual accounts. Theoretically, it is possible to achieve the same level of national savings regardless of whether social security reserves are accumulated in separate accounts or in the trust funds.

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<sup>4</sup> The PSA plan would expand coverage to state and local employees, alter the taxation of benefits, incorporate adjustments made to the CPI, speed up increases in the retirement age and index it to longevity (as in the IA proposal), and reduce disability benefits by 30 percent (as in the IA proposal).

While the prefunding and saving questions are interesting and important, they are separable from those pertaining to investment in equities. Thus, the framework adopted below is to look at the investment question for a given level of national savings. This clarifies the point that simply shifting the mix of trust fund investments should not have a large aggregate impact on the real economy.

In that context, this paper is organized as follows. Section I discusses the two arguments generally offered in favor of social security investment in equity—namely, leveling the playing field for social security vis-a-vis other retirement programs and improving the distribution of intergenerational risk sharing. Section II looks at issues of implementation to see whether social security equity purchases would be so large as to destabilize the market. Although projections depend on many simplifying assumptions, social security holdings should not exceed 5 percent of total equity holdings in 2020. Section III discusses how equity investment would increase the size of the reported unified deficit in the short run, reducing the ability of social security surpluses to mask deficits in the non-social-security portion of the budget. Section IV responds to budgeteers concerns that equity investment will reduce the demand for Treasury securities, drive up federal interest rates and the deficit. The potential rate increase appears small and with a declining federal debt, the impact should be quite modest. Section V explores the major issue of contention: the impact of government equity ownership on the control of U.S. corporations. Section VI looks at social security equity investment from the standpoint of individuals, and concludes they would be less exposed to risk with trust fund investment in equities than with direct equity investment. This section also looks at transaction costs, which turn out to be an important argument in favor of holding equities in the trust funds rather than individual accounts. Section VII considers how equity price variability might lead to increased volatility in payroll tax rates for social security financing, although the government could use trust fund reserves to smooth the tax over time.

The conclusion that emerges from this survey is that the main advantages for investing the trust funds in equities are to level the playing field for social security vis-à-vis other saving programs, which is important from a distributional standpoint; to provide a mechanism for intergenerational risk sharing; and to lower administrative costs compared to equity investment through individual accounts.<sup>5</sup> The main disadvantages are the potential interference of the federal government in private corporate activity, and a small increase in interest rates relative to returns on equities. On balance, it seems like investment in equities is a feasible strategy and desirable on economic grounds; the question is how much political turmoil would such a strategy create and is it worth it.<sup>6</sup>

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<sup>5</sup> In addition, social security equity ownership may have a stabilizing influence on the stock market, since shares owned by social security are less likely to be liquidated. It may also help promote shareholder activism, to the extent that voting rights are in the hands of fund managers.

<sup>6</sup> It is also worth noting that from the standpoint of the generation of workers soon to be retired, social security investment in equity carries an “option” feature. If returns on

## I. The Case for Investing Social Security Trust Funds in Equities

Two main arguments have been used to support the notion of investing social security trust fund reserves in equities. The first is to level the playing field with respect to other retirement plans, and the second is to enhance intergenerational risk sharing.

The proposal to consider equity investment for the trust funds emerged from 6 of the 13 members of the 1994-96 Advisory Council on Social Security. This Council was faced with a social security program in long-term deficit<sup>7</sup> and the fact that, even with the existing tax and benefit structure, many younger workers and workers in future generations would receive a low or even negative real returns on their (combined employer-employee) social security contributions. Although return on contributions or “money’s worth” considerations may not be an important criteria by which to judge a social insurance system, the Council took seriously the issue of political support, where questions of money’s worth as well as intergenerational equity figure prominently. Thus, the members were caught in a dilemma; they were charged with closing the financing gap, but any move to close that gap by raising taxes or cutting benefits would only worsen the money’s worth calculation. The solution to which all three groups resorted, in one form or another, was to find a new source of revenue--namely, the higher expected return on equity investment.

Indeed, investing in equities could provide a lot of additional money to the trust funds. The long-term (1900-1995) real return on equities has been approximately 7 percent, while at the time of the Social Security Advisory Commission the projected long-run real rate of return on intermediate government bonds was 2.3 percent (SSAC, Vol. 1,

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the trust fund are high, retired workers may well demand extra payments, while benefit cuts are less likely in case of low returns (see Bohn 1998, p.10 and Smetters 1998).

<sup>7</sup> The intermediate projection of the *1997 Annual Report of the Board of Trustees* predicts a revenue shortfall beginning about three decades from now. Between now and 2012, the social security system will bring in more money than it pays out. From 2012 until 2019, income from taxes plus interest on accumulated assets is estimated to continue to exceed expenditures. After that, if no changes are made in the meantime, it will become necessary to draw down accumulated funds to help meet the rising costs of benefits as the baby boomers retire. By 2029 the reserve funds will be exhausted. Without further legislation, current payroll taxes and benefit taxation will provide enough money to cover roughly 75 percent of benefits in 2040 and nearly 70 percent in 2075. Over the 75-year forecast period, the system has an average yearly deficit equal to 2.23 percent of taxable payrolls, compared to the current employee-employer tax rate of 12.4 percent. The Advisory Council was working with projections from the *1995 Report of the Board of Trustees* which showed a 75-year deficit of 2.17 percent and other very minor differences.

p. 170).<sup>8</sup> Of course, the equity premium comes with higher risk, in the form of greater volatility around the mean, but proponents maintain that the social security program is as well equipped as any other investor to absorb the higher risk. Earning an equity premium of 4.7 percent on a portion of trust fund assets would alleviate the need for a significant increase in taxes or reduction in benefits. This approach would allow closing the financing gap while maintaining support for social security in its current structure.<sup>9</sup>

While a shift of trust fund into equities would be a break with past investment policies, under which social security invested in special issue Treasury securities,<sup>10</sup> public holdings of private sector securities is not unusual. In 1996 state and local pension plans held roughly \$954 billion in equities, 9.5 percent of the \$10 trillion of corporate equities outstanding (end of 1996). As will be discussed below, under any realistic scenario equity holdings of the social security trust funds would be well below 9.5 percent in 2020. Although one can criticize some aspects of state and local government investment activity, they have hardly caused major disruptions of the equity market or distorted corporate decision-making.

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<sup>8</sup> The projected long-term real interest rate was raised to 2.7 percent in the 1997 Trustees' Report.

<sup>9</sup> A dispute has arisen over how to calculate money's worth ratios with a risky investment. Critics maintain that the money's worth calculations, which show individuals doing much better with equity investments than under the current regime, are fallacious. (For a review of money's worth analysis of the social security program see Geanakoplos, Mitchell, and Zeldes 1997.) The Advisory Council calculates expected future benefits on the basis that stocks will yield 7.0 percent and bonds 2.3 percent. But to calculate present values, all benefits are discounted at the rate of 2.3 percent—even when the benefits are funded by risky stock market investments. Accumulating a dollar at 7.0 percent and discounting it at 2.3 percent produces misleading money's worth ratios in those instances where individuals bear the risk. It is not an improper calculation for individuals in the case where the trust funds hold equities and individuals are guaranteed a defined benefit. Thus, they conclude that money's worth calculations can be useful for within plan comparisons, but not for comparisons between plans. (See also Bohn 1998, p.6, footnote 6.) In contrast, the Social Security Administration's Deputy Chief Actuary Stephen C. Goss believes that the calculations are correct. He argues that money's worth ratios portray expected values and that risk should be displayed in some other fashion than changing the discount rate.

<sup>10</sup> These special issue securities are government obligations with maturities ranging up to 15 years. The interest paid on them is equal to the average market yield rate for all marketable interest-bearing Treasury obligations that are not due or callable in the next 4 years. These securities are redeemable at par. Because they are government obligations, interest and principal are virtually free of default risk. They are, however, subject to interest rate risk. They are also subject to inflation risk since they are not indexed bonds.

The main point is that private pension plans, 401(k) plans, and Individual Retirement Accounts all invest in equities, and this makes these alternatives look much more attractive to some participants than social security. The social security program will be subject to unnecessary political risk unless social security's investment options are broadened. A diminution in the role of social security relative to private pension arrangements has the potential of hurting low-wage workers, who depend almost entirely on social security for retirement income and gain from its progressive benefit structure.

The second argument in favor of investing the trust funds in corporate equities revolves around the question of intergenerational risk sharing (Bohn 1998 and Diamond 1997). In general, efficient risk sharing requires that individuals bear more risk when they are young than when they are old.<sup>11</sup> First, the young have the flexibility to adjust their earnings levels if they suffer a loss on their capital; the old do not have a similar ability. Second, the young can average returns over time and take advantage of the fact that declines in stock prices are typically associated with higher returns in the next period. The old cannot take advantage of this property, since they receive the proceeds from their stock investment during old age. Third, it is not necessary, but probably reasonable to assume that the young are generally less risk averse than the old, and hence more inclined to carry stock market risk.

According to the models presented by Bohn (1998) and Diamond (1997), in the absence of social security investment in the stock market, the young bear no risk. They have not yet accumulated any assets to be invested in the stock market, so they bear no market risk from their direct holdings, and their implicit asset—social security—is invested in Treasury securities. Having the young bear none of the risk is not sensible. Shifting the trust fund from low-risk, low-return bonds to high-risk, high-return equities moves the risk from the old to the young. The young bear the risk because, in a social security system with a fixed replacement rate and a target trust-fund ratio, their payroll taxes rise whenever trust fund investments yield unexpectedly low returns. Spreading the risk among both the old and young improves the distribution of risk (Arrow and Lind 1970) and can potentially make all generations better off.<sup>12</sup>

The extent to which future generations benefit depends on how the gains from equity investment are distributed. One approach is to invest just enough in equities to meet benefit commitments, but keep the trust fund balance unchanged. This approach avoids an immediate increase in taxes, but produces no improvements in the system's long run financial status. Future generations are stuck with more risk since the trust fund now holds equities, but they do not benefit from larger trust fund balances and thus lower

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<sup>11</sup> In fact, financial advisers often urge individuals to reduce the risk in their portfolios as they age.

<sup>12</sup> Moving some equities and the equity premium into the trust funds also has the potential to increase national saving. The higher return goes to an entity with a high propensity to save rather than to individuals with lower saving propensities (see Diamond 1998).

expected future payroll taxes. The alternative approach is to invest enough in equities to allow the fund balance to grow. As a result, future generations would benefit from the prospect of lower payroll taxes in exchange for taking on greater risk. The ultimate distribution of the benefits depends on where a particular proposal falls between these two extremes.<sup>13</sup>

In any event, real arguments exist for introducing equity investments into the social security trust funds. These arguments rest on issues of ensuring retirement income for low-wage workers and improving intergenerational risk sharing; they have nothing to do with the notion that such a portfolio shift would increase savings and investment or somehow raise the return to the economy as a whole. The question is whether such a plan is feasible and what pitfalls such a shift in investment policy might entail.

## **II. Impact on Financial Markets**

The most basic question is whether the investment of social security in equities would overwhelm and destabilize the market. For example, if the trust funds were going to hold 50 percent or more of all equities, this would probably eliminate the need for further analysis. On the other hand, if the magnitudes were manageable, then other questions raised by equity investments need to be explored.

All three Advisory Council proposals show a substantial build up of equities by 2020 (SSAC, Vol.1, p.197). The MB plan, which increases the percentage of the trust fund invested in equities by 2.67 percent each year up to a limit of 40 percent, would produce equities holdings of \$1.3 trillion (in 1996 dollars) in 2020. The alternative, which earmarks 1.6 percent each year for Individual Accounts (IA), would produce \$820 billion in equity holdings by 2020. And the PSA proposal, which taps 5 percent of payroll for individually managed accounts, would produce \$3 trillion of equities. These figures highlight the fact that the real issue is not whether government-mandated retirement savings should be invested in the stock market, but rather what is the best mechanism and how much should be invested.<sup>14</sup>

What share of the total U.S. equity market would these holdings constitute? That depends on the growth rate of the real value of total equities outstanding. One study assumes a medium average annual growth of 5 percent (the average over the 1952-95 period), a high-growth assumption of 9 percent (roughly the 1982-92 average), and a low-growth assumption of -2 percent (Hammond and Warshawsky 1997). Under either the 5-percent or 9-percent growth assumption, equity holdings under the reform plans that call

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<sup>13</sup> Note that for the intergenerational risk sharing to make all generations better off, the future generations need to be compensated for the additional risk.

<sup>14</sup> While equity holdings under the three plans are of roughly similar magnitudes in 2020, by 2070 they differ significantly. At that time, PSA holdings are projected at \$20.0 trillion (1996 dollars), IA at \$6.4 trillion, and MB at \$3.1 trillion (SSAC Vol.1, p. 197).

for centrally managed investments do not exceed 5 percent by 2020 (Table 1). Only if the real value of total equities declines between now and 2020 will trust fund holdings become a substantial share for these proposals—28 percent in the negative growth case. This is an unrealistic outcome, however, since it implies 20 years of recession, which, at a minimum, would not produce adequate growth in payrolls to generate the trust fund accumulation projected by the Social Security Advisory Council.

The authors then look at how social security equity investments might affect future flows into the equity market. They compare the projected purchases by the social security trust funds with the historic purchases by the pension, insurance, and mutual fund sectors—sectors most similar in behavior to the proposed investment program. Equity purchases by these sectors have averaged 1.25 percent of outstanding equities annually over the period 1952-96. In contrast, under the 5-percent or 9-percent growth assumption for total equities, purchases under the MB and IA proposals center around 0.2 percent of market value per year and never exceed 0.3 percent—significantly below the 1.25 percent of pensions, insurance and mutual funds. Only in the case of negative growth does the rate of accumulation approach 1.2 percent.

Based on the static analysis of social security holdings and purchases, the authors conclude that “...in the case of the plans that call for central management and other things being equal, equity markets could grow fast enough to absorb without much distortion the equity investment flows and sums that would be generated by these plans” (Hammond and Warshawsky, p.63).

Nevertheless some critics argue that the mere announcement that the social security system was going to become a big purchaser of stocks would throw the market into a buying frenzy and be extremely disruptive. This concern appears to rest on the assumption that such an announcement would come as a “big bang.” Events are much more likely to evolve gradually. Market participants know now that investing the trust funds in equities is one strategy under consideration. If that strategy were ultimately adopted, it would be after a long period of public debate. During that process, market participants would increase their bets that such an outcome would occur. By the time the announcement was made, most of the projected increase in prices would already have been incorporated in stock prices. Also, it is important to remember that the debate is not about whether social security participants should hold more equities, but rather whether the equities should be held in the trust funds, in government-controlled index funds, or in individually managed accounts.

### **III. Impact on the Federal Budget**

Under current budget rules, investment of trust fund assets in corporate equities would be considered an outlay. This accounting treatment means that the reported unified budget deficit would be larger in the short run than it would have been if the trust funds were invested solely in Treasury securities. Suppose in a given year that social security

Table 1: Social Security Equity Investment as a Percent of All U.S. Equities 2020

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Assumed Growth Rate of Total Equity Market

-2%                  5%                  9%

Advisory Council Plan:

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Maintenance of Benefits	27.5%	4.9%	1.9%
Individual Accounts	17.0%	3.0%	1.2%
Personal Security Accounts	62.0%	11.1%	4.3%

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Source: Hammond and Warshawsky 1997.

generates a \$100 billion surplus, and the rest of the budget generates a \$150 billion deficit, under current practices the unified deficit is \$50 billion. Now suppose that social security were to invest its \$100 billion surplus in equities, this 'expenditure' would wipe out social security's surplus from a unified budget perspective. As a result, the unified deficit would amount to \$150 billion.

An increase in the measured deficit caused by investing in equities would have a very different impact on the economy than an equivalent increase caused by boosting expenditures. In the case of the expenditure increase, the government would need to borrow an additional \$100 billion from the private capital markets to finance the outlays. This is likely to raise interest rates and reduce investment. In the case of the stock purchase, the government would still borrow \$100 billion to finance the unified budget deficit, but at the same time would inject \$100 billion in private markets through social security's purchase of corporate equities.<sup>15</sup>

While the current accounting treatment of equity purchases lacks intuitive appeal, since it seems to make little sense to report an asset swap as an expenditure,<sup>16</sup> this treatment may have some beneficial political implications. It would highlight the fact that the \$100 billion surplus in the social security program is financing a major portion of the \$150 billion deficit in the non-social security part of the budget. If social security were to invest its annual surpluses in equities rather than Treasury securities, the unified budget deficit would roughly equal the deficit in the non-social security part of the budget. Focusing the political debate on that number would allow the social security trust funds to accumulate assets in a manner that could increase national savings. In other words, one additional advantage of social security investment in equities is that it makes it harder for the government to mask the deficit in the non-social-security portion of the budget.

Investment of the social security trust funds in equities could affect the federal budget in another way. If the increased demand for equities lowered the equity premium and raised the interest rate on government bonds, this could increase the costs of government borrowing and make the deficit larger than it would have been otherwise. The question is whether relative rates of return would be expected to change, and, if so, by how much.

#### **IV. Impact on Relative Rates of Return**

Investing the trust funds in equities should be viewed to a first approximation as a restructuring of portfolios with little impact on aggregate savings, investment, or national income. In the example above, the government purchases \$100 billion of stock, and the public holds \$100 billion less. Social security owns \$100 billion less of government bonds

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<sup>15</sup> For further discussion of the budget issues, see Steuerle 1995.

<sup>16</sup> Of course, Congress regularly uses the receipts of the sale of an asset to help reduce the federal deficit.

than it would have otherwise, while the public owns \$100 billion more. Thus, a larger share of the nation's capital income would accrue to social security in exchange for its agreeing to accept more investment risk, and social security would require less future taxes. At the same time, private investors would earn lower returns and bear less risk—since they are now holding more government bonds—than they would have without the investment shift.

The portfolio restructuring should have some effect on relative rates of return, but the changes would be expected to be small. The equity premium would be expected to decline to reflect the increased efficiency of risk bearing, as equity risk spreads to the young as well as the old. This decline should be modest, however. Some movement would also be expected in interest rates. Interest rates are largely determined by the supply and demand for physical capital, and while the supply of capital will not change, the demand will be affected by the reduction in the equity premium. Again, the movement would be expected to be small.

The one study that has provided an estimate of the effect on relative returns concluded that the shift to equities in the trust funds would lower the equity premium by 10 basis points, and raise the interest on Treasury securities by roughly the same amount (Bohn, 1998). This estimate was generated by an over-lapping generations model, and required many simplifying assumptions.<sup>17</sup> Nevertheless, it is the only estimate around and will have to stand until someone undertakes a more comprehensive analysis.

A 10-basis-point increase in federal interest rates would raise federal borrowing costs somewhat, but the effect would be small. The federal debt in the hands of the public today is roughly \$4 trillion, so the increase in rates on Treasury borrowing would raise debt service costs and the deficit by about \$4 billion per year. This increase should be considered in the context of roughly \$1.8 trillion in federal outlays annually. Moreover, it is important to remember that all three Advisory Council proposals involve social security investment in equities through either the trust funds, government-sponsored accounts, or mandated individually managed investments. So that aspect of the three proposals would

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<sup>17</sup> The main feature of Bohn's analysis can be summarized as follows. Individuals live for two periods. They work in the first period, and retire in the second period. Labor is supplied inelastically, and wages equal the marginal product of labor. Production takes place by means of a Cobb-Douglas production function, and the capital stock only partially depreciates through the production process. Hence, stock returns are a function of both technology shocks (productivity risk) and shocks to the resale value of capital goods (valuation risk). The reason for the increase in the real rate and the reduction in the equity premium is that trust fund equity investments reduce the productivity and valuation risks carried by the old generation, since despite market fluctuations they receive their retirement income in the form of a defined benefit. This commitment makes the current young more willing to buy equities and less willing to buy bonds. This lowers the premium on equities and raises the rate on bonds. See also the discussion of Diamond 1998, p.15.

be expected to have a similar impact on Treasury borrowing costs.<sup>18</sup> Finally, in the wake of improved baseline projections and the Balanced Budget Act of 1997, the Congressional Budget Office projects the debt in the hands of the public to decline in the future. Thus, any negative effect on the deficit from higher interest rates should decrease over time.

Although the effect is small, whatever harm done to the federal deficit must be compared to benefits from the lower cost of equity finance. Lowering the equity premium is likely to encourage private investment, particularly in riskier enterprises. Indirect effects on corporations through changes in relative rates of return, however, are not a central issue in the debate over whether to invest trust fund securities in equities. Rather the debate has focused on issues of corporate control and the potential for the federal government to interfere with the workings of the private sector.

## **V. Impact on the Corporate Sector**

The major opposition to investing the trust funds in equities, and a primary reason that part of the Advisory Council proposed Personal Security Accounts, centers on concerns about government interference with the allocation of capital in the economy and with corporate activity (SSAC, Vol.1, p.126-28). At this point, it is important to emphasize that these concerns, to the extent they are valid, should also apply to the IA as well as the MB proposal. Under the IA proposal the government would hold individuals' 1.6-percent contributions in defined-contribution accounts and designate a series of index equity funds for investment. Hence, questions about which stocks to include in the indexes, and how shares would be voted are just as much issues for the IA proposal as for the MB plan.

Everyone involved in the debate recognizes that having the government in the business of picking winners and losers and voting on corporate proposals is undesirable. The issue therefore is not one of differing goals but whether effective mechanisms can be established to ensure that the government does not interfere in private sector decisions.

Proponents of the MB plan advocate that trust fund equity investments be indexed to a broad market average, and that the goal of investment neutrality be established in law. To achieve these objectives the government would establish an expert Investment Board similar to the Federal Retirement Thrift Investment Board, which administers the Thrift Savings Plan for federal employees. This board would be responsible for selecting an appropriate broad market index, such as the Russell 3000 or the Wilshire 5000, for trust

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<sup>18</sup> Interestingly, Bohn (1998) finds that the Treasury borrowing rate declines under the PSA plan. This is due to the fact that the movement away from a defined benefit plan increases the potential fluctuation in consumption in old age. As a result, the young want to offset some of this new risk by buying more of a safe asset. Thus, they bid up the price of bonds and the rate falls.

fund investments.<sup>19 20</sup> This board would also be responsible for choosing, through competitive bidding, several portfolio managers to manage the accounts, and for monitoring the performance of these managers.

In response to concerns about corporate governance, MB proponents suggest that the government shares either not be voted, or voted in a pattern that reflected other common shareholders. This approach should ensure that government ownership does not disrupt corporate control in any way. An alternative suggested strategy would push proxy decisions down to level of the individual portfolio managers as is done in the case of the Thrift Savings Plan for Federal employees, and thereby avoid any concerted corporate control by a government agency. This alternative strategy would allow portfolio managers to exercise voting rights to maximize share values.

The question is whether these provisions would be effective in keeping the government from interfering in private markets, while at the same time ensuring effective corporate governance. This raises several policy issues. Advocates and opponents each have institutional models to which they can point to support their argument that government holding of equity would or would not be disruptive.

### *Is Total Passivity Desirable?*

While no one wants the Federal government voting shares, extreme passivity raises another set of concerns.<sup>21</sup> A key characteristic of large U.S. corporations is that ownership and control are often separated. This separation creates an “agency” problem, whereby the managers may run the firm in part to satisfy their own interests, rather than the interests of shareholders.<sup>22</sup> In the 1980s, corporate takeovers provided one measure of discipline, with the threat that outside bidders would reunite ownership and control in poorly performing firms. Since the lull in takeover activity, commentators have been looking for other mechanisms to discipline ineffective management. One option has been

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<sup>19</sup> An additional positive implication of social security investment in equities is its educational effect as to the merits of passively investing in a large and well-diversified index. The financial literature is replete with studies showing that on average index funds do better over time than actively managed accounts.

<sup>20</sup> One consideration for investment in a large index, as opposed to a small index such as the Standard & Poor’s 500, is that the S&P 500 option would favor large companies over small ones (see White 1996).

<sup>21</sup> Indeed, studies have shown that the voting right associated with a share of common stock is a significant factor in the value of the share. For example, Lease, McConnell, and Mikkelsen (1983) find the market prices of stocks with superior voting rights to be 5 percent higher than the prices of otherwise identical stocks with inferior voting rights.

<sup>22</sup> The presence of an agency problem in corporate governance is well documented both theoretically and empirically, and dates back as far as Adam Smith (see Jensen and Meckling 1976).

to encourage institutional investors to be more active.<sup>23</sup> Not voting the equity held by the social security trust funds, which could amount to 5 percent of the total, could hurt institutional monitoring.<sup>24</sup>

Another aspect of this issue is that extreme passivity runs contrary to the fiduciary rules enacted in the Employment Retirement Income Security Act of 1974 (ERISA). Under ERISA pension fund trustees are required to monitor the stocks in the index for particularly poor performance. Similarly, ERISA requires fiduciaries to vote their proxies as part of their overall investment strategies because the value of the investment is defined in part by the ability to vote the proxies. More basically the fiduciary duties of loyalty and prudence would seem to suggest that the Investment Board should adopt the practices of other large pension funds if they prove effective in increasing recipients' returns. Some studies suggest that shareholder activism yields positive returns, although the evidence is inconclusive. In short, the government may be giving up some return in following a totally passive strategy and desirable monitoring of corporate activities may be lost. Thus, the alternative proposal to push proxy voting down to the fund managers may merit serious consideration. This would avoid government interference in the private sector, but not strip government-held equities of their voting rights.

### *Institutional Evidence*

Public pension funds provide a range of evidence regarding the desirability of allowing social security to invest in equities. Supporters point to the success of federal plans; opponents point to the performance of state and local pension funds to demonstrate the activist tendencies of public fund administrators.

Francis Cavanaugh, the first executive director of the Federal Retirement Thrift Investment Board for the Thrift Savings Plan for federal employees, was at Treasury in 1988 when Treasury opposed social security trust fund investment in equities.<sup>25</sup> After

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<sup>23</sup> One example of the increased interest in monitoring is a recent provision of the California Public Employees Retirement System (CalPERS). CalPERS is required by law to provide a full-time employee "experienced and knowledgeable in corporate management issues to monitor each corporation any of whose shares are owned by the system and to advise the board on the voting of the shares owned by the system and on the responses of the system to merger proposals and tender offers." This quote is from Angelis 1997, p.20.

<sup>24</sup> Actually, it is unclear whether it would hurt or help. Not voting 5 percent of the shares increases the weight on the remaining 95 percent. If management holds most of the stock, then not voting the 5 percent further entrenches management's position. On the other hand, if most of the stock is held by activist public pension funds, such as CalPERS, then not voting 5 percent increases their influence and enhances corporate monitoring.

<sup>25</sup> In 1988 the Treasury testified against social security investment in equities:

eight years investing federal employee monies in equities, however, he changed his mind (Cavanaugh 1997). His reversal rests on his positive experience with the Investment Board. He reports that the Board encountered no difficulties in selecting an index (S&P 500) and obtaining competitive bids from large index fund managers. By 1996 the Board had established a highly efficient stock fund, amounting to \$13 billion, with administrative expenses of only 8 basis points (Federal Retirement Thrift Investment Board 1997, p. 32). Other commentators point to the success of the Federal Reserve's pension fund (Mullins 1996). These are encouraging pieces of evidence, but these plans are relatively small. For example, equity holdings of the Thrift Savings Plan in 1996 amounted to only 0.1 percent of the market value of equity outstanding, whereas the reform proposals would lead to holdings closer to 5 percent of the market by 2020.

Critics of social security investments in equities cite the activities primarily of state pension funds. These funds have been subjected to two types of pressures.<sup>26</sup> The first is pressure from the investment boards or the state to undertake investments that serve other government interests, often at a sacrifice in return. The second is pressure to divest certain stocks to demonstrate that they do not support some perceived immoral or unethical behavior.

Indeed, one does see "economically targeted investments" among state pension funds. Many states have used their pension funds to express political sentiments, retain jobs, or build infrastructure. In 1993, eighteen states, including California, New York, and Florida, had a statutory mandate for their state pension funds to invest in local projects (Angelis, pp. 34-35). Several other states have a similar policy created by the pension or investment board. As a result, even though states have created board structures similar to the Federal Thrift Savings Plan, a number of state investment boards have been pressured into making questionable investments in local industry. Real debacles are rare but the sacrifice of some return is not.<sup>27</sup> When considering this issue in the context of the social security trust funds investing in equities, however, it is important to remember that any loss in return, undesirable as it may be, would probably be trivial compared to the savings

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"If ownership of equities or private sector bonds were contemplated, significant problems could arise as to potential federal control of corporations, the allocation of investment resources, and the conduct of business. We recommend against such involvement."

The main motivations for this negative assessment were concerns about governmental interference with the free-enterprise economy and the excessive riskiness of stocks as an investment for public funds (Cavanaugh 1997, pp. 100-101).

<sup>26</sup> See Romano (1993) for an extensive discussion.

<sup>27</sup> For example, a popular social investment for state pension funds has been the acquisition of privately insured mortgage-backed securities that are designed to increase the supply of within-state mortgage funds for local home ownership. Between 1980 and 1982, ten state pension funds invested in mortgage-backed securities that were much riskier and less liquid than federally insured "Ginnie Maes," yet obtained yields below the Ginnie Mae rate (Munnell 1983).

in transaction costs of administering a single fund as opposed to roughly 200 million individual accounts.

State pension funds have also been subjected to a lot of pressure to divest holdings in companies behaving in ways considered by some groups to be immoral or unethical. During the 1980s public pension funds were typically pressured to divest themselves of stocks of companies doing business in South Africa. In the end, however, much of this tension was eased by the development of the “Sullivan Principles,” which allowed companies to assuage investor concerns by agreeing to abide by a specified code of behavior. Similarly, the current controversy over tobacco litigation has led to increased pressure for large funds to divest themselves of tobacco holdings. CalPERS, the New York State Common Retirement Fund, and the CREF portion of TIAA-CREF all agreed to support a resolution requesting that the tobacco companies comply with regulations aimed at stopping teen smoking, but did not divest because of their fiduciary duty to maximize beneficiaries’ returns (Angelis, p.39). Sometimes divestiture does occur, but as a rule investment managers are more eager to find a compromise than to sacrifice return.

State pension funds have been curtailed somewhat in their international investments. Current restrictions imposed by state pension funds include limitations or prohibitions on investments in Northern Ireland, Iran, Cuba and Countries that comply with the Arab League’s Boycott of Israel (Angelis, p. 39). The question is whether this would be more or less likely to occur at the federal level. On the one hand, it may be easier for the citizenry of Massachusetts to agree on restrictions in Northern Ireland than to get agreement from the nation as a whole. On the other hand, at the federal level additional issues arise with regard to international investments. For example, if the trust fund held equities in Mexican companies, selling off these shares at the time of the Mexican Peso crisis would have signaled U.S. lack of confidence, and exacerbated the problem.<sup>28</sup> These complications may explain why the Federal Thrift Savings Plan does not have an international fund. Although the MB plan calls for the use of global indexes, limiting investments to domestic companies might be sufficient. Such a limitation may not be that restrictive in an era when many domestic companies have offices around the globe and derived much of their earnings from international activity. Furthermore, even if eliminating international investments precludes achieving the optimal point on the risk-return frontier, moving from Treasuries to domestic equities in the social security trust funds represents a significant improvement in risk sharing as compared to the current arrangement.

On balance, the threat of interference does not seem as serious as opponents claim, but it probably is the major argument that can be used against investment in equities and it

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<sup>28</sup> White (1996) argues that investing internationally might have the additional complication of putting pressure on the government and the Federal Reserve to intervene more frequently in financial and foreign exchange markets in an effort to support U.S. foreign investments.

has a lot of emotional appeal. The concern about economically targeted investment does not seem very serious, since the administration could put pressure to use the social security funds for, say, infrastructure investment with or without equity investment. The international issues are tougher, and it may be desirable to limit investments to domestic companies at least initially. In any case, any lingering concerns apply equally to the MB and IA proposals.

## **VI. Impact on Individuals**

Individuals are subject to two types of risk in their retirement investments.<sup>29</sup> The first is market risk, which includes both risk of return during the accumulation phase and interest rate risk associated with the purchase of annuity. The following discussion assumes that mean returns mirror historical experience and the uncertainty stems from fluctuations around that mean. The question is the extent to which individuals are affected by these fluctuations under each of the three social security reform proposals. The second type of risk can be called “equity premium risk.” This discussion explores the implications of the equity premium being lower in the future than it has been in the past. In addition, they will be affected by the transaction costs associated with different investment strategies.

### *Market Risk*

Equity investment subjects individuals to market risk, a factor not relevant under social security’s current defined benefit plan. The replacement rate provided under a system where annuities depend on market outcomes can vary significantly over time. Chart 1 measures replacement rates on the vertical axis for people retiring at age 62 as of the date on the horizontal axis (Burtless 1997). As the chart shows, the replacement rate, defined as the ratio of real annuity payment to real average wage at 54-58, could vary from 20 percent to more than 100 percent.<sup>30</sup> This variation reflects two major sources of uncertainty. The first is the return on stock market investment, here the Standard and Poor’s 500. Although real returns have been good during all the 40-year periods in the last 130 years, the difference between the high (9 percent) and low (4 percent) average return has important implications for the size of the nest egg to be annuitized. This simulation assumes 100 percent of assets are held in equities and therefore produces greater fluctuations than would occur if individuals held only a portion of their social security accumulation in stocks. The second source of uncertainty is the nominal interest

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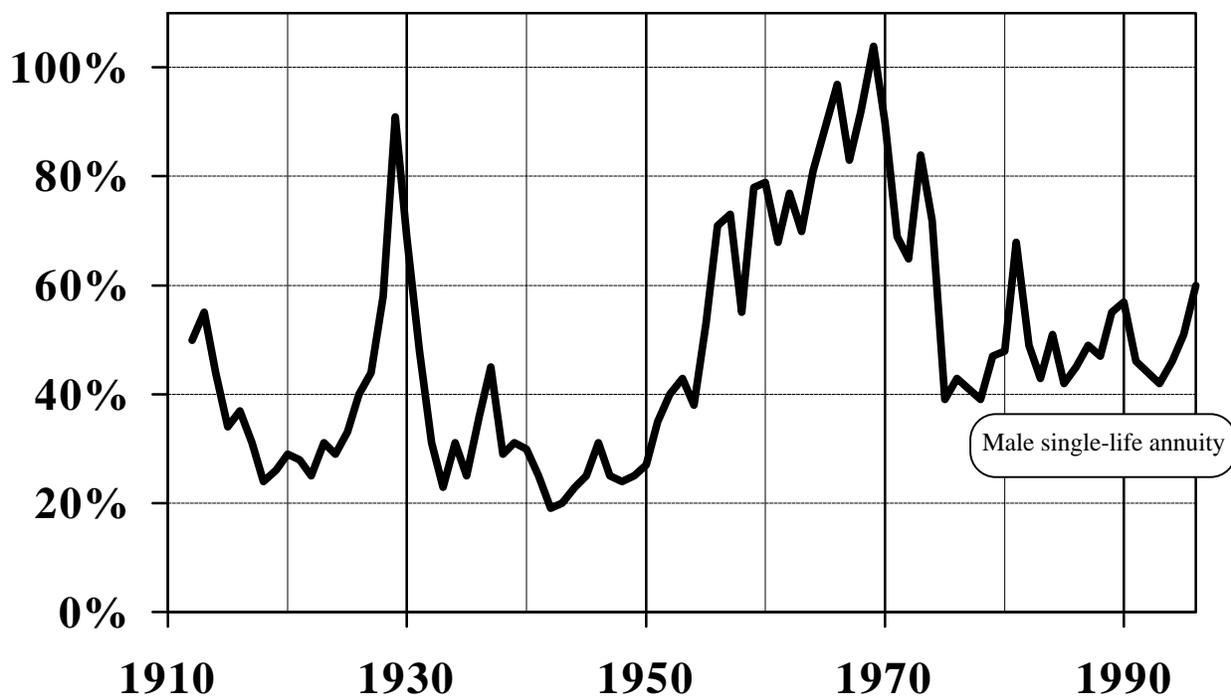
<sup>29</sup> After retirement, they are subject to inflation risk and the risk of outliving their accumulated resources, but these risks are not directly relevant to the topic under consideration.

<sup>30</sup> The worker is assumed to have a career that lasts 40 years (ages 22 through 62<sup>nd</sup> birthday) and to have an age-earnings profile matching that for all U.S. men with earnings in 1996. Real economy-wide average wages are assumed to grow at 2 percent. Investments are converted into a single-life level annuity on the worker’s 62<sup>nd</sup> birthday.

# Chart 1

## Replacement Rate at Age 62

(Real annuity/Real avg. wage, 54-58)



Source: Calculations by Gary Burtless, The Brookings Institution, Washington, D.C. (1997).

rate at the time of retirement. The higher the interest rate, the bigger the annuity payment. Thus people who enjoy high stock market returns and who retire when interest rates are high, will have large retirement benefits relative to pre-retirement earnings. While those who face worse stock market performance, and retire when interest rates are low, end up with low replacement rates.

The question is the extent to which individuals face this market risk under each of the Advisory Council proposals. The lesson that emerges from Chart 1 is that, given the enormous variation in stock market returns, a constant government-mandated contribution rate will produce substantial over-funding for some and substantial under-funding for others. Attempting to avoid this result and stabilize replacement rates would require constant tinkering with contribution rates. It is very difficult to ensure stable replacement rates when individuals are dependent on their independent investment results. Under the PSA plan, which involves the largest stock market investment and permits a wide range of investment alternatives, investors would be exposed to the full impact of variations in market returns. The IA plan, which involves a smaller stock market component, and limits investment alternatives, would involve less risk than Personal Security Accounts.

In the case of social security's defined benefit plan, even if the aggregate trust funds were invested in equities, individuals would avoid most of the risk described above. They do not have to cash out their holdings at any particular time and they would receive a defined benefit under the program. If the market were down temporarily relative to expectations, the trust fund and investment earnings would be low. But the social security trust funds would be quite large by that time and even a substantial—but temporary—drop in the stock market should not require a benefit cut or tax increase (Holmer and Bender 1995). In other words, the government should be in a good position to weather such fluctuations by either using some trust fund reserves or borrowing temporarily.<sup>31</sup>

The discussion so far has assumed that equities continue to earn a real return of roughly 7 percent and has focused on the implications of variations around this mean. A separate question is the implications of a decline in the mean equity premium—that is, future stock market returns turn out to be considerably lower than those experienced in the past.

### *Equity Premium Risk*

All three plans have based their calculations of benefits, replacement rates, and money's worth on the assumption that the equity premium will be as high in the future as it has been in the past.<sup>32</sup> This may not be true.<sup>33</sup> In fact, economists cannot explain the

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<sup>31</sup> This argument also applies to the concern for distortionary taxation at times of slow economic growth, which is discussed below.

<sup>32</sup> Indeed, the risk-return trade-off offered by stocks has been historically attractive. One well-accepted way to measure such trade-off is the Sharpe ratio: average return in excess of the risk-free rate, divided by return volatility. For example, during the 1965-

magnitude of the current premium in its relation to stock volatility. They find that, based on typical attitudes toward risk, the average real rate of return on stocks is more than enough to compensate for the additional risk relative to safer assets such as Treasury bills.<sup>34</sup> In fact, for holding periods of 22 years, stocks have outperformed long-term government bonds, intermediate-term government bonds and 3-month Treasury bills since 1926 (Siegel 1994).

More importantly, the returns on equities have been so volatile that even if the stochastic processes generating future capital market outcomes remained unchanged, future returns could well lay outside the range experienced in the past (Cochrane 1997). Moreover, it is possible that the risk-return characteristics of financial markets might change. Finally, as noted above, the investment of trust reserves in equities would be expected to lower the equity premium—albeit by the relatively small amount of about 10 basis points (Bohn 1998).

For the discussion at hand, the issue is not whether the equity premium would be lower in the future, but rather whether a decline in the equity premium would be more or less disruptive if equities were held in individual accounts or in the trust funds. In all three cases income would be inadequate to finance projected benefits; the question is who would bear the residual risk. As constructed, individuals under the IA and PSA proposals would simply have to live with lower benefits. The implication of the MB plan is that younger taxpayers would be required to pay higher taxes. In all likelihood, neither extreme would emerge from the political process. The pure market outcome under the individual arrangements would probably be mitigated by some taxpayer contribution to bolster benefit levels; the defined benefit commitment would probably be modified by dividing the shortfall between beneficiaries (through some reduction in benefits) and workers (through some increase in taxes).

No one has the answer to how the overall economy would respond if the equity premium declined, and it is unclear whether the possibility of a decline argues for an individual or collective arrangement.

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1991 period, this ratio (annualized with monthly data) has been 32.8 percent for equity, 33.3 percent for Treasury bonds with maturity 1-5 years, and 23.9 percent for Treasury bonds with maturity 6-10 years (Fama and French 1993).

<sup>33</sup> Although the following discussion focuses on the equity premium, the total return is the relevant number. The total return is comprised of two parts—the safe rate and the additional return from holding equities. All plans would be affected by a change in either component. Although attention is focused on the possibility of a decline in the equity premium, the safe rate is almost certain to decline if the social security reform plan increases saving and the stock of capital.

<sup>34</sup> This result is the well-known “equity-premium puzzle,” after Mehra and Prescott 1985.

## *Transaction Costs*

If individuals are going to hold equities as part of their social security portfolios and the only issue is whether they will hold them in individual accounts or in the collective trust fund, transaction costs must figure in the assessment. The Advisory Council, based on estimates provided by the Vanguard group, concluded that administrative costs would average 1 percent of assets per year for the PSA plan, 0.105 percent for IA proposal, and 0.05 percent for the centrally managed plan (SSAC, Vol.1, p. 35). For the PSA plan, the 1-percent includes the cost of marketing, tracking, and maintaining the account but does not include brokerage fees. If the individual does not select an index fund, then transaction costs may be twice as high. Additional cost would also be incurred for the government to regulate the entire enterprise.

Evidence from abroad suggests that costs can become very high. In Chile's privatized social security plan, for example, the administrative costs are estimated to be over 20 percent of contributions (Diamond 1996, p.76).<sup>35</sup> Perhaps more relevant is the experience of the United Kingdom. Workers who opt out of the earnings-related portion of the government plan must participate in "appropriate personal pensions." Charges for these plans appear to vary widely and are not always visible to the workers. On balance, however, the transaction costs in the U.K. are higher than those reported for Chile and higher than those assumed by the Advisory Council (Diamond 1998, pp.19-20).

In addition to the costs to the individual, individual accounts would also involve the costs of getting individual worker contributions to the relevant financial intermediary; these costs would fall on employers (and the self-employed) or the government.<sup>36</sup> It might be possible to piggyback on existing arrangements for the 25 percent of the population that already participates in a 401(k) plan, but the portfolios selected would probably not be consistent with the rules for individual investment under the PSA plan. Entirely new arrangements would be required for the rest of the population. The federal government could undertake this task, but to the extent that transfers need to be more than once a year, costs would be higher than under the current system (Diamond, 1998, pp.22-23).

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<sup>35</sup> Transaction costs expressed as percents can be confusing. For example, the costs for the PSA plan is estimated at 1 percent of assets, while the costs of the current U.S. pay-as-you-go social security system is less than 1 percent of contributions. Those figures sound very similar. In fact, they are very different. A 1-percent annual charge on assets reduces total accumulations by roughly 20 percent (according to calculations performed by Peter Diamond), while a 1-percent charge on contributions reduces the benefits by only 1 percent. On the other hand, the Chilean transaction costs, which are also reported as a percentage of contributions, are imposed as a front load, not an annual, fee. This fee reduces accumulations and benefits by 20 percent.

<sup>36</sup> Eventually, of course, all costs are born by individuals.

In summary, while the implementation of a MB plan with investment in equity raises many issues in common with the individual accounts of the IA and PSA plans, the implications in terms of administrative costs are very different.

## **VII. Impact on Social Security Financing**

Two considerations arise with regard to the possible impact of equity investments on social security financing. The first is what would happen in the event of a persistent substantial decline in the stock market, particularly in the early stages of equity investment. The second is whether holding equities would aggravate or moderate swings in social security financing.

Some critics are wary of equity investments because of the potential disruption that could result from a protracted decline in equity values (*Economic Report of the President* 1997, p. 113). For example, a broad index of Japanese stock prices fell by more than 50 percent during the 1990-92 period and is still depressed. If such an event occurred in the U.S., particularly just as the trust funds were beginning to accumulate equities, the public might decide that equity investment was not such a good idea. If public pressure resulted in the social security trust funds selling into such a down market, the government could worsen the decline.

The alternative, however, is that the protracted decline occurs just as participants are building up equity holdings in their individual accounts. This decline could also cause some second thoughts about the movement towards a defined contribution component for social security. In short, a severe and protracted drop in equity values will necessarily create anxiety and hardship, but it is not clear whether social security holding equities makes the situation worse. One could argue that having the risk spread over the entire population would mitigate the impact.

The second question is whether equity investment would make social security financing more or less stable. Suppose that the goal of the Social Security Administration was to minimize, say, the weighted average of the mean payroll tax and variations in that rate, while maintaining a constant replacement rate.<sup>37</sup> Then the agency would be interested in the correlation between equity returns and the nominal and real wage rates, since with revenues tied to current wages and benefits tied to lagged wages and prices the program can get into financing problems whenever the real wage declines. If stock market declines were positively correlated with nominal or real wage declines, then stock market investment may introduce more fluctuations into the financing of the system.<sup>38</sup> To the

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<sup>37</sup> See the discussion of investing trust funds in private capital markets in the SSAC, Vol.2, pp.84-87.

<sup>38</sup> Considerable evidence suggests that the stock market tends to anticipate, in the same direction, business cycle fluctuations (see, for example, Fama 1981 and Fama and

extent that the fall in stock values resulted in an increase in payroll tax rates, this would add distortions when the economy is most vulnerable.<sup>39</sup> On the other hand, it is possible that, even with social security investment in equity, the government can smooth tax rates. First, the existing trust fund could be used as a buffer against this kind of occurrence. Second, even in the absence of a fund, the government could run a temporary deficit, and issue debt to finance the shortfall. In short, the economy should not have to bear the burden of tax rates fluctuating in a pro-cyclical fashion.

## VIII. Conclusion

The conclusion that emerges from this review is that investing the social security trust funds in equities is a feasible strategy that is desirable on economic grounds. It would improve the distribution of risks across generations. The young are currently exposed to little of the risk associated with equities since they have accumulated few assets to invest in the stock market. The wealth they do hold in the form of claims on social security benefits is free of market risk since the assets are invested in Treasury securities. Allowing the trust funds to invest in equities, in a system with a guaranteed replacement rate and a target trust-fund ratio, would shift some of the equity risk to the young, since they would face higher payroll taxes if the market performed particularly poorly.

The other very important economic consideration is transaction costs. The evidence from Chile and the U.K. and estimates for the PSA plan suggest that transaction costs could reduce an individual's total accumulations over a 40-year work life by 20 percent. The comparable figure for trust fund equity investments would be 0.2 percent. These numbers dwarf any estimated losses that might arise from accepting less than market returns on social investing.

Investing in equities would also be a useful step to garner support for the social security program. It is true that higher returns in social security would result in lower returns elsewhere in the economy. But raising returns in social security and lowering them in private pension plans has significant distributional implications. Social security provides proportionately higher benefits to low-wage workers, most of who have no private pension coverage.

Opposition to investing in equities is very strong in some corners, however, primarily because of concern over government control of the private sector. These concerns could probably be addressed through a careful structuring of the investment arrangements and most of the pitfalls occurring in state pension plans could be avoided.

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French 1991). On the other hand, at least in the short run, labor income growth seems to be largely unrelated to capital income growth (Baxter and Jermann 1997).

<sup>39</sup> See the large literature on tax smoothing; for example Barro 1979 and Bohn 1990.

To the extent that it is not possible to insulate the funds fully from pressure for divestiture or other form of social investing, any losses incurred through below market returns must be compared to the dramatic increase in transaction costs associated with individual accounts.

The strength of the opposition means that whether or not to press forward with a proposal to invest the trust funds in equities comes down to a political judgment. It is necessary to weigh the economic gains from investing the trust funds in equities with the potential for opposition to this proposal to derail a package of changes that would restore balance to the program.

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