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# ISSUE BRIEF

## AMERICAN ACADEMY *of* ACTUARIES

## Investing Social Security Assets in the Securities Markets

*The long-term solvency and sustainability of the U.S. Social Security program is a much-debated public policy issue. According to the intermediate projection from the 2006 Trustees Report, program expenses will exceed payroll tax income starting in 2017, and the combined OASDI trust funds will run out of money in 2040. Thereafter, only a portion of the scheduled benefits will be payable from the program's current revenues.*

*Various policymakers and analysts have proposed changes to the program aiming to improve its long-run solvency. Some of those proposals have tried to mitigate the impact of generally unpopular tax increases or benefit cuts required to maintain solvency by relying on additional income that could be earned from investing the Social Security assets in the relatively volatile equities markets, rather than in special-issue government bonds, as at present.*

*Some advocates of investing Social Security assets in the equities markets further suggest that such a change would enhance national saving. They argue that investment in Treasury bonds does not constitute real savings, because the government increases other current spending or reduces other current taxes in the amount of these "excess" Social Security tax receipts. By contrast, they argue that the government would not be able to spend the excess payroll taxes on other projects so easily if the funds were invested in the equity and corporate bond markets.*

*Policymakers who favor investing Social Security assets in the securities markets have followed two major approaches, namely, altering the program by establishing individual defined contribution accounts as a part of the benefit/tax structure; or maintaining the current defined benefit structure while investing some of the trust funds in the securities markets. While the two approaches may differ greatly in benefit design and account management, the effects of changing the investment policy on the rest of government finances and the economy are similar. The American Academy of Actuaries' Social Insurance Committee has developed this issue brief to outline a number of issues policymakers will need to address before sanctioning the investment of assets in the securities markets, either under the individual account approach or the trust fund investment approach.*

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## Background

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Projections based on the intermediate assumptions of the 2006 Social Security Trustees' Report indicate that the trust funds will grow from \$1.86 trillion in 2006 to a peak amount of more than \$6 trillion in 2027 and decline thereafter until becoming exhausted in 2040.

Currently, Social Security trust fund assets are invested entirely in non-marketable special-issue U.S. government securities that represent loans to the U.S. Treasury's General Fund. For more than two decades, the Social Security trust funds have been net lenders to the General Fund, and interest on the resulting debt has been rolled over into additional loans. However, if the projections based on the intermediate assumptions are realized, in 2017 the U.S. Treasury will need to begin net annual redemptions of the trust fund assets to maintain payment of scheduled benefits. Beginning in 2027 these net redemptions will begin to exceed the amount of annual interest credited to the trust funds. This change in the cash flow between the trust funds and the General Fund is expected to have important public policy and economic implications beyond the operation of the Social Security program.

The current build-up in trust fund assets stems from Congress's decision to use a level tax rate to fund benefit payments, which increase significantly over time as a percentage of the taxable payroll. This build-up is expected to be a one-time phenomenon. Once the upcoming wave of baby-boomer retirements has ended in the early 2030s, the rate of increase in benefit payments as a percentage of taxable payroll is expected to slow considerably. Even assuming Congress continues using a tax rate that remains constant for extended periods, the potential for building up a large trust fund after 2030 is much less than today.

A decision to invest some or all of the trust fund assets in the securities markets, particularly equities, could strengthen the financing of the Social Security program by increasing the expected long-term investment earnings to the trust funds. However, the increased returns would entail more uncertainty in future system finances. Also, such a change in investment policy would divert excess payroll taxes from the U.S. Treasury, so that the Treasury would need to sell more of its debt securities to external (non-U.S. governmental) lenders if government spending were to be maintained at currently projected levels.

## Defined Benefit vs. Defined Contribution

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Social Security is currently a defined benefit (DB) system. This means that all the assets in the trust funds are available to pay benefits to any participant, and that individual participants' benefits are determined according to formulas, not the accumulated value of their contributions. Under this structure, risks such as poor investment performance, premature death or disability, and outliving one's savings can be shared among all participants rather than being borne individually by the participants. For advocates of the defined benefit approach, this risk sharing is one of the main reasons for having a Social Security system.

Many people advocate that, in part, Social Security be changed to a defined contribution system. Under such a system, a portion of contributions made on behalf of each participant would be allocated to an account dedicated solely to paying benefits to that participant and his or her dependents and survivors. The value of the benefits for each account holder would be the amount accumulated in the account over time from contributions and investment earnings. Advocates of this approach generally believe that individuals should be responsible for facing or mitigating the various risks in life, although most individual account proposals retain some degree of risk-sharing, by keeping some portion of the current defined benefit program or through subsidizing in some way the contributions of lower-income workers.

Program assets could be invested in the securities markets under either a defined benefit or a defined contribution system. Under a defined benefit system, for any given set of benefit formulas, realized investment earnings from a diversified portfolio of securities are likely to be higher than for the current portfolio of

special-issue government bonds, and thus are likely, although not certain, to reduce the payroll tax needed to support total benefits at a given level. For example, the Social Security actuaries estimate investing 40 percent of trust fund assets in equities, phased in over 15 years, would reduce the 75-year deficit under current law only by less than one percent of payroll, assuming a 6.4 percent expected real rate of return. This could reduce the size of other adjustments, such as benefit reductions and/or tax increases, which would be needed to bring the system into actuarial balance.

Under a defined contribution/individual account system, higher expected investment earnings could allow for lower defined contribution levels to achieve any desired level of expected benefits. Most individual account proposals allow participants to direct how their accounts are invested, usually among a small number of investment options focusing on equities, bonds, foreign markets, etc. An individual account system would have different results for different people, depending on how well they invested their assets and how lucky they are with the outcome of uncertain returns. Participants who choose investments with higher than average returns over time will increase their benefits relative to less successful investors. Since any transition to an individual account system would be gradual, the trust funds could continue to hold assets available for investment in the securities markets, albeit less and for a shorter time than without individual accounts, so the two approaches might temporarily coexist.

## Investment Risk and Returns

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Relatively volatile securities—those with uncertain value in the future—generally have higher expected rates of return than relatively safe (less volatile) ones because most investors are averse to risk and require compensation for bearing it. Investment decisions must take into account both the expected return and the uncertainty of returns; exclusive reliance on expected values can be misleading.

Social Security currently invests its assets in U.S. Treasury securities, which are considered very low-risk, although not entirely riskless. While their risk of default is remote, they still expose the investor to inflation and interest-rate risk.<sup>1</sup> Nevertheless, they are generally regarded as much less volatile than other typical securities and offer a correspondingly lower rate of return. If Social Security assets were invested in higher-yielding corporate bonds and in equities, they would also be exposed to greater investment volatility.

In a defined contribution system with individual accounts, the added investment risk would be borne by the individual participants. Both the proponents and the opponents of individual accounts agree that there is a risk-return tradeoff, although they may differ in their opinions as to whether the combined effect benefits the participants. Standard financial theory suggests that the benefits of higher expected returns would balance the risks of greater volatility.

Defined benefit systems are usually perceived as better suited to deal with investment risk due to their pooling of assets and long-term outlook. Proponents of the DB approach emphasize that, unlike individuals who have to draw down their investments when they retire, even if the market conditions are unfavorable, a large DB fund enjoys continuity, receiving contributions from the next generation of participants, and having to sell at most a small fraction of its assets at a time. Its critics, however, point out that the added security for the current retirees comes at the cost of depleting the assets available for funding the next generation's retirement.

While it is not clear that either approach is inherently better in the risk-return tradeoffs facing the participants, the actual proposals with individual accounts tend to expose participants to more risk than the proposals that would keep the DB system in place. The difference arises mainly because the individual accounts

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<sup>1</sup>A perfectly safe (riskless) investment is a theoretical concept that can only be approximated by actual securities. Even the proverbial money in the bank has uncertain future value due to inflation.

would permanently replace a portion of the current pay-as-you-go system, while investing a portion of Social Security assets under the current DB framework would likely be limited to the period of excess contributions, as explained in the Background section.

Investment risk can be more difficult to analyze than other types of uncertainty (such as mortality risk) because low investment returns tend to coincide with general economic downturns, when other sources of income are depleted and thus people value the income from investments more than in times of prosperity. Analysis that fails to account for this may underestimate the economic cost of investment risk.

## Macroeconomic Issues

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The Social Security system does not exist in a vacuum, so a complete analysis of any changes to the way its assets are managed must consider the effects of those changes on the whole economy. For example, if more highly volatile investments improve Social Security's finances, is new wealth created or is it just a reallocation of resources from the rest of the economy? If the total resources of the society are unaffected, one group cannot get more than its current share of wealth without some other group getting less; an immediate increase in the income of current beneficiaries could not be accomplished without reducing other resources, such as the income of current workers or other investors.

However, future resources are not necessarily fixed. One of the main vehicles for increasing future resources is investment in capital, and current saving facilitates that investment. Therefore, from the viewpoint of the economy as a whole, a critical question about any policy that purports to strengthen Social Security without raising contribution rates is whether it increases national saving and, hence, investment. If it does not, it is unlikely to achieve anything more than a transfer to retirees from the rest of the society.

Most economists agree that a change in Social Security investments, by itself, unaccompanied by deficit-reducing policy changes, would lead to little or no increase in national saving. The theory is that investors already hold portfolios they desire, and would offset any changes in Social Security assets through opposite changes in their private investments. If they perceive that their Social Security wealth has increased in an expected-value sense, but has become more uncertain, they would prefer to hold safer (and hence lower-yielding) assets in their other accounts. One opposing argument, that some increase in saving would occur, relies on factors that would prevent some investors from fully offsetting the policy change. For example, many people do not own any securities and could not decrease their holdings in response to an increase in holdings by Social Security.

Proposals that include individual accounts could have a more significant effect on savings, but the posited cause driving increased savings is the reduced guaranteed income, rather than the change in the way assets are invested. Furthermore, if such proposals involve government borrowing to finance the transition, the combined effect on savings is much smaller and may even be negative.

Another issue arising from investors' reactions to Social Security changes is the possible change in security prices. If Social Security were to invest all or a portion of its assets in the securities markets, and correspondingly reduce its holding of government bonds, it would have to trade those securities with a willing counterparty. Unless the rest of the government increased revenues or reduced spending, it would have to make up for all the redemptions of the bonds held by Social Security by additional borrowing: in effect, Social Security would sell its bonds to private investors. As private investors buy government bonds from Social Security and sell private securities to it, their portfolios would become less risky, but would earn lower expected returns as well.

Assuming that investors were already holding their desired portfolios, that the mix of private securities did not change, and that investors did not view Social Security assets as their own wealth, then market forces could cause changes in security prices.<sup>2</sup> The price changes may arise from changes in supply and demand:

Social Security's effective sale of government bonds would increase their supply in the market and create a downward pressure on their prices, which would increase interest rates. At the same time, by purchasing private securities, Social Security would increase the aggregate demand for these securities. This would push their prices up, which would reduce their future expected returns. At the new prices, investors would desire more government bonds and fewer private securities, and would engage in the transactions necessary to establish this new equilibrium. The ultimate result would be higher market prices for private securities relative to government bond prices than under the current regime.

Reality might differ from the foregoing simple model in several ways. The mix of private securities offered might be changed. In response to higher prices for equities and higher yields being demanded for corporate bonds, companies might be inclined to borrow less and issue more equities. This would result in a significantly smaller effect on the changes in relative prices and yields of the particular types of securities. Also, if people perceived Social Security as similar to a pension fund, and assumed that their future benefits would be correspondingly higher (in an expected value sense) and more uncertain, they might willingly trade some expected return for a reduction in risk in their personal portfolios without changes in the market prices of securities. Some adjustment of this type would certainly be expected, but the magnitude is very difficult to predict.

## Investment Management Issues

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If Social Security becomes the owner of a large portfolio of publicly traded securities issued by U.S. corporations, questions and concerns would doubtless arise over the potential for political interference in the private sector of the economy. Such concerns likely may include assertions that the federal government is playing favorites in selecting securities to buy and sell, or exercising its ownership rights to vote on corporate management and governance issues with political ends in mind. Assuming these assertions occurred, basing investment decisions partly on political motives could also reduce investment returns and may adversely affect national economic growth. Serious political considerations could arise in making investment decisions about companies whose products or practices are controversial.

In Canada, these questions and concerns have been addressed with respect to investments in the securities markets by the Canada Pension Plan by establishing an independent Investment Board that follows a policy of investing in a broad index of securities. However, public pressure has been brought on the CPP Investment Board to invest more heavily in "green" (environmental policy) companies while reducing or eliminating investment in companies engaged in activities deemed harmful to the public good, such as tobacco companies, arms manufacturers and environmental polluters. The CPP Investment Board, at least initially, has resisted these pressures.

In the U.S., many observers point to the Federal Employees' Thrift Savings Plan (TSP) as a model supporting the principle that Social Security could avoid political concerns by using index funds as vehicles for investing in the securities markets. The TSP has used index funds since its inception in 1987. By automatically investing across a broad range of securities, the TSP has experienced good investment returns and very low expenses without becoming involved in political issues.

The validity of extending the TSP model to Social Security may be challenged on the grounds that Social Security is many times larger than the TSP in terms of number of participants and assets and, therefore, of far greater concern to the public. Under either program, lawmakers could always vote to override statutory

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<sup>2</sup> Most individual investors are also participants in the Social Security system, so their personal wealth may be affected by the trust fund's performance. However, that connection might be irrelevant if fluctuations in trust fund assets are not expected to be reflected in taxes and benefits during the lifetimes of current investors.

controls designed to prevent political interference in the investment management process. Also, the magnitude of index funds held by Social Security could become so large that they would have a dominating effect on the securities markets, with the result that prices may no longer reflect business and economic reality. Furthermore, artificially propping up security prices through purely mechanical investment policies might negate the incentive for management to perform in the interests of shareholders.

Defining the features of an index fund to be used for Social Security would require great care to avoid market distortions. Adding a particular stock to an equity index fund, for example, would likely boost the price of that stock, while the elimination of a particular stock would likely produce the opposite effect. Also, the existence of a large government ownership position might influence some economically advantageous corporate mergers or acquisitions involving foreign companies.

Proxy voting is an issue that would also need to be addressed. Concentrating voting control in a government official or agency might be problematic. The size and nature of Social Security would make it impractical to follow the TSP practice of delegating proxy voting to an external fund manager who serves participants in a fiduciary capacity. The use of multiple fund managers might mitigate this problem. Another possibility is for the government to abstain from voting with respect to any equity securities held by Social Security. Alternatively, the government could be required to vote all proxies in the same proportion as the votes cast by other stockholders.

There are ways to achieve similar investment results for the Social Security trust funds without having to actually hold the private securities. For example, a 3 percent tax on capital gains and dividend income has similar effects as Social Security holding 3 percent of the total stock market. This approach would avoid the concerns surrounding government ownership of stocks discussed above. It would also smooth out the risk of negative returns because net capital losses are only reflected up to \$3,000 per year.<sup>3</sup> Opponents point out that this is a tax increase and it breaks Social Security's tradition of only taxing earnings from employment. Proponents note that, if it achieves the same result as investing the trust funds in the securities markets, it should be viewed as equally desirable or undesirable. While there is no specific proposal at this time, this approach reveals some non-obvious implications of government investment, as well as demonstrates the possibility of achieving the benefits of investment in the securities markets while avoiding some of the potential problems.

## Policy Questions

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Policymakers will need to address issues, including the following questions, before sanctioning the investment of Social Security assets in the securities markets:

- How much uncertainty in the system's future financial position, or in future benefits, would be associated with the higher expected returns? How would the risk be managed? Who would absorb the cost of lower-than-expected returns?
- What will be the impact on the national economy and, in particular, capital markets if Social Security is directed by law to invest some of its assets in securities?
- What will be the effect on the rest of the government's finances if Social Security reduces its investment in government bonds?

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<sup>3</sup> Exact equivalence would require the tax income to be offset by the investment income on the Treasury bonds that would have to be sold in order to buy the private securities. In addition, for exact equivalence, the capital gains tax would have to reflect the full capital loss (instead of being limited to \$3,000 per year, and carried over to following years until either fully reflected or offset by future gains). Proponents use the capital gains tax as is, since it is administratively easier and it would provide the benefits of smoothing to Social Security's trust funds. And finally, the equivalence is to the portion of the stock market held by taxable entities.

- What will be the effect when the program must liquidate part of its portfolio?
- How will the Social Security investments in the private sector be structured and managed to mitigate any political influence?
- Should Social Security assets be invested partially in non-U.S. securities?
- How will the issues of proxy voting and corporate governance be addressed?
- How will the general public and the government react and respond to short-term and long-term gains and losses in equity holdings that will inevitably occur?

## Conclusion

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Investing Social Security assets in the securities markets might improve system finances whether the current defined benefit system is retained or the system is partially converted to individual accounts. In the former case, expected increases in trust fund earnings could reduce the tax increases or benefit reductions deemed necessary to bring the system into long-term actuarial balance. In the latter case, expected higher earnings on individual accounts could reduce the amount of contributions diverted to the accounts in order to yield the desired level of benefits. However, investing in private securities would also increase the uncertainty of the system's future financial position, resulting in the possibility that these desired results might not be realized and the system could fare worse than under the current investment policy. Further, a change in investment policy could also impact the rest of government finances as well as the national economy and the dynamics of the securities markets. In evaluating a change in Social Security's investment policy to include the securities markets, policy makers should look beyond the effects of such a change on the solvency of the Social Security program itself.



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