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SOCIAL SECURITY FINANCING

Implications of Government Stock Investing for the Trust Fund, the Federal Budget, and the Economy





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**Accounting and Information
Management Division**

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The Honorable Charles E. Grassley
Chairman
The Honorable John B. Breaux
Ranking Minority Member
Special Committee on Aging
United States Senate

This report responds to your request that we study the implications of having the Social Security trust fund invest in the stock market. As requested, we assessed the impact of government stock investing on (1) the Social Security trust fund, (2) the U.S. economy, and (3) the federal budget.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the date of this letter. At that time, we will send copies to the Chairmen of the House and Senate Committees on the Budget, the Senate Committee on Finance, and the House Committee on Ways and Means; the Director of the Office of Management and Budget; the Secretary of the Treasury; the Commissioner of the Social Security Administration; the Chairman of the Securities and Exchange Commission; and other interested parties. Copies will also be made available to others upon request.

Please contact Mr. Posner at (202) 512-9573 or Ms. Bovbjerg at (202) 512-5491 if you have any questions concerning this report.

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Executive Summary

Purpose

The Social Security program faces a long-term financing challenge, primarily due to changing demographics. In response, reform advocates have suggested numerous options to curb benefits or increase revenues. One proposed option is to invest Social Security funds in the stock market with the intention of earning higher returns. To better understand the potential implications of stock investing for the federal government, the Senate Special Committee on Aging asked GAO to address the impact of government stock investing on (1) the investment earnings, investment risk, and financial solvency of the Social Security trust fund, (2) national saving and the financial markets, including implementation issues presented by the government selecting and managing its stock portfolio, and (3) the federal budget and federal debt.

This report addresses only indirectly the broad issue of Social Security's long-term financing needs and does not evaluate any specific Social Security reform package or address proposals to establish individually-owned accounts. Rather, as discussed with Committee staff, to fully identify the effects of government stock investing, GAO studied changing trust fund investment policy in isolation from any other program changes in Social Security. In its analysis, GAO generally reviewed the literature on financial markets, Social Security, and federal budgeting and interviewed finance, budget, and program experts in government and the private sector. To illustrate how alternative policies could affect the trust fund's financial outlook, the Social Security Administration's (SSA) Office of the Chief Actuary, at GAO's request, simulated the potential outcomes of two stock investment scenarios using the Social Security Trustees' 1997 intermediate actuarial assumptions.

Background

Social Security's long-term financing problem is caused primarily by the aging of the U.S. population. According to Social Security's actuarial estimates, the number of workers supporting each Social Security beneficiary is projected to drop from 3.3 to 2.0 between 1997 and 2030—a decline of nearly 40 percent. Beyond 2030, the proportion of the population that is elderly is expected to continue growing due to relatively low birth rates and increasing longevity.

Currently, Social Security's tax revenue each year exceeds benefit payments, and the trust fund, by law, invests the resulting cash surplus in U.S. government obligations. The trust fund also receives interest income from the Treasury that is credited in the form of additional Treasury securities. Beginning in about 2012, according to Social Security actuarial

projections, the program's annual tax revenue will be insufficient to pay yearly benefits. To cover the cash shortfall, the trust fund will begin drawing on the Treasury, first relying on its interest income and eventually drawing down its assets. Regardless of whether the trust fund is drawing on interest income or principal to make benefit payments, the Treasury will need to raise the required cash through some combination of borrowing from the public,¹ spending cuts in other federal programs, or revenue increases. In 2029, the trust fund is projected to be exhausted. After that, Social Security taxes are projected to cover only about 75 percent of promised benefits.

In response to Social Security's long-range financing problems, the 1994-1996 Advisory Council on Social Security (the Advisory Council) suggested a variety of specific changes. One proposal advanced by 6 of the Advisory Council's 13 members suggested that along with a number of benefit and tax changes, policymakers consider allowing the trust fund to invest in stocks. Supporters of this approach have pointed out that investing in the stock market is standard practice for state and local government and private sector pension funds. Overall, pension funds held about 60 percent of their assets in stocks and these holdings accounted for about a quarter of total U.S. stock holdings—valued at \$12.8 trillion—at the end of the third quarter of 1997.

The seven other members of the Advisory Council opposed government investment in the stock market. They believed that there would be tremendous political pressures to steer the Social Security trust fund's investments to achieve other economic, social, or political purposes rather than basing decisions solely on the expected risk and return. Also, there was concern that if the government exercised its stock voting rights, it might influence individual companies or industries.

To assess the implications of changing Social Security's investment policy, it is important to understand how Social Security fits within the federal budget and its influence on overall fiscal policy. Within the federal budget, Social Security is a trust fund account that authorizes the Treasury to pay Social Security benefits as long as the account has a balance. Social Security is the largest federal trust fund with fiscal year 1997 outlays of \$365 billion and a fund balance of \$631 billion invested in Treasury securities. While the trust fund's Treasury securities represent assets for Social Security, they are future claims against the Treasury. Today, Social

¹If the unified budget were in surplus, then financing the excess benefits would require less debt redemption, rather than increased borrowing.

Security's surplus tax revenue is invested in Treasury securities and is spent to finance other governmental activities, thereby reducing the Treasury's need to borrow from the public. Although the Social Security trust fund is technically excluded from the budget, its finances contribute to the government's impact on the economy. Therefore, Social Security is included, along with all other federal programs, in the commonly used "unified" budget measure. The unified budget is the means to measure the government's current draw on financial markets. However, in considering the long-range implications of federal policies, it is also useful to consider the impact that Social Security's temporary surplus has on the government's unified budget. Social Security's current cash surplus partially offsets the deficit in the rest of the government's accounts.²

Social Security has an important influence on the government's overall fiscal position, which, in turn, affects national saving, a key determinant of long-term economic growth. The nation's saving is composed of the private saving of individuals and businesses and the saving or dissaving of all levels of government. In general, government budget deficits subtract from national saving by absorbing funds that otherwise could be used for private investment, while government surpluses add to saving. Raising saving and investment levels would improve the long-term productivity of the economy, thereby boosting economic growth. The most direct way for the federal government to contribute to national saving and long-term economic growth is to achieve and maintain a balanced budget or a surplus. A bigger economic pie would make it easier for future workers to meet the dual challenges of paying for the baby boomers' retirement while achieving a rising standard of living for themselves.

Results in Brief

Allowing the Social Security trust fund to invest in the stock market is a complex proposal that has potential consequences for the trust fund, the U.S. economy, and federal budget policy. For the Social Security trust fund, stock investing offers the prospect of higher returns but greater risk. Higher investment returns would allow the trust fund to pay benefits longer, even without other program changes. However, if stock investing is implemented in isolation, the trust fund would inevitably have to liquidate its stock portfolio to pay promised benefits, and it would be vulnerable to losses in the event of a general stock market downturn. Although stock investing is unlikely to solve Social Security's long-term financial

²Interest credited on the trust fund's Treasury securities has no current effect on the unified federal deficit because it is a payment from one part of the government to another part.

imbalance, it could reduce the size of other reforms needed to restore the program's solvency.

Beyond the clear trade-off between greater risk for the prospect of higher returns, the government would face other implementation issues inherent in owning and managing a stock portfolio. Proposals for government stock investing typically suggest investing passively in a broad-based stock index to reduce both costs and the risk that the government would control individual companies. Index investing would help achieve these goals, and it would reduce but not eliminate the possibility of political influence over stock selections. However, because index investors cannot alter their portfolio composition to increase financial performance, the government would have a stronger incentive to actively exercise the voting rights of its sizable stock portfolio. This issue would raise concerns about potential federal involvement in corporate affairs, and could prove more difficult to resolve since even choosing not to vote would affect corporate decision-making by enhancing the voting power of other shareholders or investment managers.

For the federal budget, stock investing would have the immediate effect of increasing the reported unified deficit or decreasing any reported unified surplus because, under current budget scoring rules, stock purchases would be treated as outlays. Any money used to purchase stocks would no longer be invested in Treasury securities, reducing the Treasury's available cash and more clearly revealing the underlying financial condition of the rest of the government. If after accounting for this effect the federal government were in a deficit, the Treasury would need to borrow from the public to replace cash used to buy stocks unless offsetting spending or revenue actions were taken.

Without compensating changes in fiscal policy, stock investing would not significantly alter the impact of federal finances on national saving and the economy. To cover a deficit, the government would issue additional Treasury securities to the public, but it would offset this action by purchasing stocks from other investors. This asset shuffle could lead to higher stock prices and higher interest rates, undercutting somewhat the potential gain from stock investing and increasing the government's cost of borrowing. Even with such price effects, the government could still come out ahead by investing in stocks. However, any higher returns earned by the government would otherwise have accrued to other investors. In short, by itself, government stock investing would have no appreciable effect on future national income.

Although the immediate budgetary effect of investing in stocks would be to increase unified deficits or decrease unified surpluses, stock investing might indirectly lead to changes in federal fiscal policy that could increase national saving. By making Social Security's surplus unavailable to the Treasury, stock investing could focus more attention on the budgetary imbalance that exists when this temporary source of funds is excluded. Increased attention could prompt policymakers to address this imbalance by cutting spending or raising revenue. Such fiscal actions could boost national saving and long-term economic growth. Of course, regardless of any change in Social Security's investment policy, policymakers could decide to achieve a budget balance or surplus without relying on Social Security's surplus.

GAO's Analysis

Potential Returns and Risks for the Social Security Trust Fund

The Social Security trust fund could expect to earn more by investing in the stock market but would have to accept greater risk. Under current law, the trust fund invests solely in U.S. government obligations and, under the Social Security Trustees' intermediate assumptions, is expected to earn 2.7 percent after inflation over the long term. Historically, returns on stocks have exceeded returns on Treasury securities over the long term, averaging about 7 percent after inflation. However, stock returns are highly variable from year to year, and there have been years in the past with negative returns.

To illustrate how much the trust fund might invest in the stock market, GAO developed (1) an aggressive scenario of investing Social Security's future annual cash surplus and interest, while maintaining a contingency reserve of special Treasury securities equal to at least a year's expenditures, and (2) a more conservative scenario of investing only Social Security's cash surplus and selling stocks first to finance Social Security's expected cash deficit. Under these scenarios, Social Security's cash surplus would not be available to finance other government operations. Under the aggressive scenario, the Treasury also would have to raise additional cash to finance interest payments to the trust fund.

Under the aggressive scenario, assuming the historical average stock return, the trust fund's exhaustion could possibly be delayed by about a decade, from 2029 to 2040. This potential delay well into the baby

boomers' retirement years would result only from the Social Security trust fund investing aggressively in the stock market. The trust fund would invest more than 70 percent of its assets in the stock market, which would be a dramatic shift from investing solely in Treasury securities. Under the cash surplus scenario, still assuming the historical average return, the possible delay in the trust fund's exhaustion would be only 3 years.

The possible delay resulting from any stock investment scenario would be significantly shorter if the future stock returns are lower than the historical average of 7 percent after inflation. As an illustration, if the future return on stocks is 1 percentage point lower, the delay in the trust fund's exhaustion under the aggressive scenario would be reduced to only 6 years. The delay under the cash surplus scenario assuming the real return is 1 percentage point lower would be 2 years. The results of these simulations illustrate some outcomes associated with two stock investment alternatives; they should not be interpreted as forecasts and are not intended to represent the full range of possible outcomes for the Social Security trust fund.

The only way for the Social Security trust fund to earn the higher returns possible with stock investing is to take on greater risk. The primary risk that the trust fund would face is the possibility of loss in the event of a general stock market downturn (market risk). Depending on the composition of its portfolio, the trust fund could also face losses from a heavy investment in a group of companies or an industry susceptible to the same economic dynamics (concentration risk). Diversifying the stock portfolio, for example by investing in an index representative of the broad market, would reduce the risk of loss associated with individual companies or an industry segment performing poorly.

If stock investing is implemented in isolation from other program changes, the trust fund would face the certain need to liquidate its assets to pay benefits with no certainty about what future stock prices would be or whether it could recover amounts invested. The more the trust fund is counting on stock sales to raise cash, the greater its vulnerability in the event of a general market downturn. Stock investing conceivably could be implemented in combination with other changes that increase Social Security's funding. As part of a broader package, which is what the Advisory Council suggested, stock investing could complement traditional reforms in that higher stock returns could reduce the size of benefit cuts and/or tax increases.

Impact on Economy and Financial Markets

The economic effect of government stock investing would likely be minimal because stock investing by itself does not increase national saving. In the absence of further deficit reduction, the Treasury would have to borrow from the public to offset the Social Security's stock purchases, yielding no additional national saving.³ The net effect would be that private investors would end up with fewer stocks and more Treasury securities, while the government would have stocks and fewer of its own securities. This asset shuffle means that any higher returns earned by the government would otherwise have accrued to other investors. In short, by itself, government stock investing would have no appreciable effect on future economic growth.

Financial market analysts and economists believe that this asset shuffling between the government and other investors could increase stock prices and interest rates, undercutting the potential gain from stock investing and increasing the government's cost of borrowing. Price effects could begin even before the government announces its stock investment policy, reducing the potential gain to the government from stock investing. Higher interest rates would increase the cost of government borrowing, even as higher stock prices would reduce the government's expected return on its stock investments. The magnitude of price changes is uncertain and could be small. Long-term changes in asset prices are unpredictable and would depend, in part, on the response of other borrowers and investors to the short-term price effects of government stock investing. Although Social Security's stock portfolio would likely be larger than that of any other single investor, its size in comparison to the whole stock market would likely be relatively small.

Benefits and Limitations of Stock Indexing

Proposals for government stock investing typically recommend investing in a broad-based stock index to diversify the government's stock portfolio, reducing the likelihood of concentrating investments in individual companies, and to reduce administrative costs. Still, index investing could create price effects of its own as the government would have to purchase new stocks added to an index or sell stocks deleted from the selected index. Analysts have found significant price changes in stock prices of companies added to or deleted from the Standard & Poor's 500 index, which represents about two-thirds of the U.S. stock market.

³This statement applies in a situation where the federal government has a unified budget deficit after investing in the stock market. If, instead, the government ended up with a unified surplus, the cash used to purchase stocks would not be available to reduce the level of debt held by the public.

Index investing does not eliminate the possibility that nonfinancial objectives would influence stock selection. For example, the government could start with a broad-based index and modify it to target investments that offer competitive returns and also achieve social goals. Alternatively, the government could choose to disinvest in specific companies or sectors of the economy that are in conflict with government policies. Critics have expressed concerns that pressures to include or exclude stocks for nonfinancial reasons might reduce the rate of return on the government's portfolio and hinder the overall economic efficiency of capital markets. Some analysts believe that it might be possible to establish in law that investments be made solely for the financial benefit of Social Security participants and not for other social objectives. They cite as an example the federal Thrift Savings Plan, which is managed solely in the interest of participating federal employees and their beneficiaries.

Regardless of the type of indexing strategy the government adopts, policymakers would need to decide how to handle the stock voting rights for the government's portfolio. Because index investors as a general rule do not alter the portfolio composition to increase financial performance, they have a stronger incentive to exercise stock voting rights actively. Instead of selling stocks of an underperforming company, an index investor can choose to participate in corporate decisions that might enhance the company's performance. However, critics have expressed concern that the government's right to vote its sizable number of shares would allow it to influence corporate decisions. To blunt such concerns, the government's stock voting rights could be restricted by statute, but any restriction would need to be designed carefully. For example, simply prohibiting the government from exercising its voting rights would favor other stockholders or investment managers by effectively increasing their voting rights.

Effects of Government Stock Investments on the Federal Budget and Fiscal Policy

In the short term, stock investing would increase the reported unified deficit or decrease any unified surplus because, under current budget scoring rules, stock purchases would be treated as budget outlays. The magnitude of the change in the reported deficit/surplus could exceed \$100 billion annually, depending on how much the trust fund invested in stocks. If after accounting for this effect the government were in deficit, the Treasury would have to borrow more from the public, unless action were taken to reduce other spending or raise revenues.

Any increased borrowing from the public would be offset by reduced borrowing from the Social Security trust fund, leaving the federal government's gross debt largely unchanged. More important, the reported decline in the government's budget balance caused by stock investing would not significantly affect national saving. While any federal borrowing from the public would absorb money from capital markets, the trust fund's stock investments would offset this effect by adding money to the markets. As a result, the government's fundamental fiscal position would be largely unchanged.

While stock investing would have a negative effect on the budget deficit/surplus today, over time its impact on the unified budget could largely be neutral. As with any budget outlay, the purchase of a stock would mean money flowing out of the government and, thus, the reported budget deficit/surplus would deteriorate. However, the sale of a stock would mean money flowing back into the government. So, when Social Security begins running cash deficits in the future, it could sell stocks to finance benefits, rather than drawing on the Treasury. This approach would result in smaller future budget deficits or larger future budget surpluses than under current policy. This longer term improvement could offset the near-term deterioration in the deficit/surplus. Indeed, on balance, the government could actually come out ahead in the long term if its stock earnings were to exceed any increase in federal borrowing costs that might result from a stock investing policy. However, without any accompanying action to raise national saving, the government would be capturing a portion of stock returns that would otherwise have accrued to private investors.

Whether the short-term increase in reported budget deficits or the decline in reported budget surpluses would lead to any changes in fiscal policy is unclear. Since stock investing would not substantially change the impact of federal finances on the economy, policymakers might decide to maintain fiscal policy as is. Since the government acquires a financial asset when it buys stock, the case could be made that the purchase should not be treated as a budget outlay. Policymakers could choose to change budget scoring rules to explicitly recognize the distinct nature of stock purchases. However, such a change would conflict with the way other asset purchases are treated in the budget. Generally, asset purchases are scored as outlays.⁴ In addition, creating different budget scoring rules for stocks would also raise some complicated technical issues, such as how to

⁴Major exceptions include debt transactions, such as those that occur when Social Security invests funds in special Treasury securities, and cases in which the government purchases an asset that is considered equivalent to cash.

recognize changes in their market values. If, despite these considerations, stock purchases were not treated as outlays, stock investing would have no major impact on the reported budget deficit or surplus.⁵

If current budget scoring rules were maintained, stock investing would make more visible the underlying condition of the government's finances excluding the Social Security surplus. Currently, in the unified budget presentation, the Social Security surplus masks the financial status of the rest of the government. By helping to finance current spending, Social Security's cash surplus may result in the government spending more or taxing less than it would if these funds were not available to finance other programs.⁶ By making at least part of Social Security's surplus unavailable to the Treasury, stock investing would reduce or eliminate the masking effect. In effect, stock investing would make the unified budget measure look more like the "on-budget" measure that excludes Social Security's finances. If Social Security's cash surplus and its interest were invested in stocks, the "new" unified budget measure would virtually match the on-budget measure.⁷

Even though stock investing does not change the government's fiscal position, the higher reported deficits or lower reported surpluses that result could indirectly lead policymakers to change fiscal policy by focusing more attention on the budget imbalance that exists when Social Security's surplus is excluded. Policymakers could react to a higher unified deficit by cutting spending and/or raising taxes. Or, if stock investing were expected to reduce or eliminate a unified budget surplus, instead of creating or adding to a unified budget deficit, policymakers might be reluctant to enact tax cuts or additional spending. In this case, fiscal restraint might not promote higher saving, but it would avoid policy actions that could cause saving to decline.

⁵Even if stock purchases were not treated as outlays, stock investing could result in minor changes in the budget deficit/surplus (e.g., interest costs on any additional borrowing from the public).

⁶This masking effect could have important implications for any Social Security reforms. Reforms that increase the size of the Social Security surplus would not necessarily improve the long-term picture for the budget as a whole. A larger Social Security surplus might serve to intensify the masking of the financial condition of the rest of the government. If policymakers responded to a larger trust fund surplus by exercising less restraint in the rest of the budget, the improvement in Social Security's finances would not contribute to increased national saving. Instead, it would only allow the trust fund to build up more claims on the Treasury without enhancing the nation's ability to meet these future claims.

⁷In addition to Social Security, the on-budget deficit excludes the operations of the U.S. Postal Service. However, this amount is very small in comparison to Social Security.

Though stock investing could help highlight the budget shortfall that exists when Social Security's surplus is excluded, it represents a circuitous way of essentially duplicating an existing measure—the on-budget deficit. If policymakers wanted to take actions to boost national saving, they certainly could do so directly by running annual surpluses in the unified budget and devoting the surplus funds to reducing the level of outstanding debt held by the public. If the government ran a unified budget surplus equal to Social Security's cash surplus, the Treasury would no longer need to rely on Social Security revenues to finance federal spending on other activities. While attaining and sustaining surpluses could prove extremely challenging, such a policy would strengthen the fiscal position of the government and, by promoting higher saving, better position the economy to handle the baby boomers' retirement costs.

Agency Comments

GAO requested comments on a draft of this report from the Commissioner of the Social Security Administration, the Secretary of the Treasury, the Chairman of the Securities and Exchange Commission, and the Director of the Office of Management and Budget or their designees. These agencies provided technical comments from their staffs, which were incorporated where appropriate.

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Abbreviations

CBO	Congressional Budget Office
DI	Disability Insurance
ERISA	Employee Retirement Income Security Act
GDP	gross domestic product
OASDI	Old-Age and Survivors' and Disability Insurance
OASI	Old-Age and Survivors' Insurance
OMB	Office of Management and Budget
S&P 500	Standard and Poor's 500
SEC	Securities and Exchange Commission
SSA	Social Security Administration
TSP	Thrift Savings Plan

Introduction

The Social Security program faces a long-term financing challenge primarily due to changing demographics. In response, numerous options have surfaced to reduce benefits or increase revenues. One proposed option is to invest a portion of the Social Security trust fund¹ in the stock market with the intention of earning higher returns. To better understand the potential implications of the federal government investing in the stock market, the Chairman and Ranking Member of the Senate Special Committee on Aging asked us to analyze how such a proposal would affect the Social Security trust fund, the U.S. economy, and the federal budget.

Social Security's Financing Challenge Primarily Caused by Demographic Trends

Social Security's long-term financing problem is primarily caused by the aging of the U.S. population. As the baby boom generation retires, labor force growth is expected to slow dramatically. According to Social Security's intermediate actuarial projections, the number of workers supporting each Social Security beneficiary is projected to drop from 3.3 to 2.0 between 1997 and 2030—a decline of nearly 40 percent.² Beyond 2030, the population is expected to continue aging due to relatively low birth rates and increasing longevity. These demographic trends will require substantial changes in Social Security benefits and/or revenues. Without such changes, Social Security tax revenues are expected to be insufficient to cover benefit payments in about 2012, less than 15 years from now. To cover this annual cash shortfall, the trust fund will begin drawing on the Treasury, first relying on its interest income and, eventually, on its assets.³ As shown in figure 1.1, the trust fund's annual cash deficits will grow rapidly, reaching a projected 1.6 percent of the nation's gross domestic product (GDP) in 2028. The trust fund is projected to be exhausted by 2029 and, after this point, Social Security's annual tax

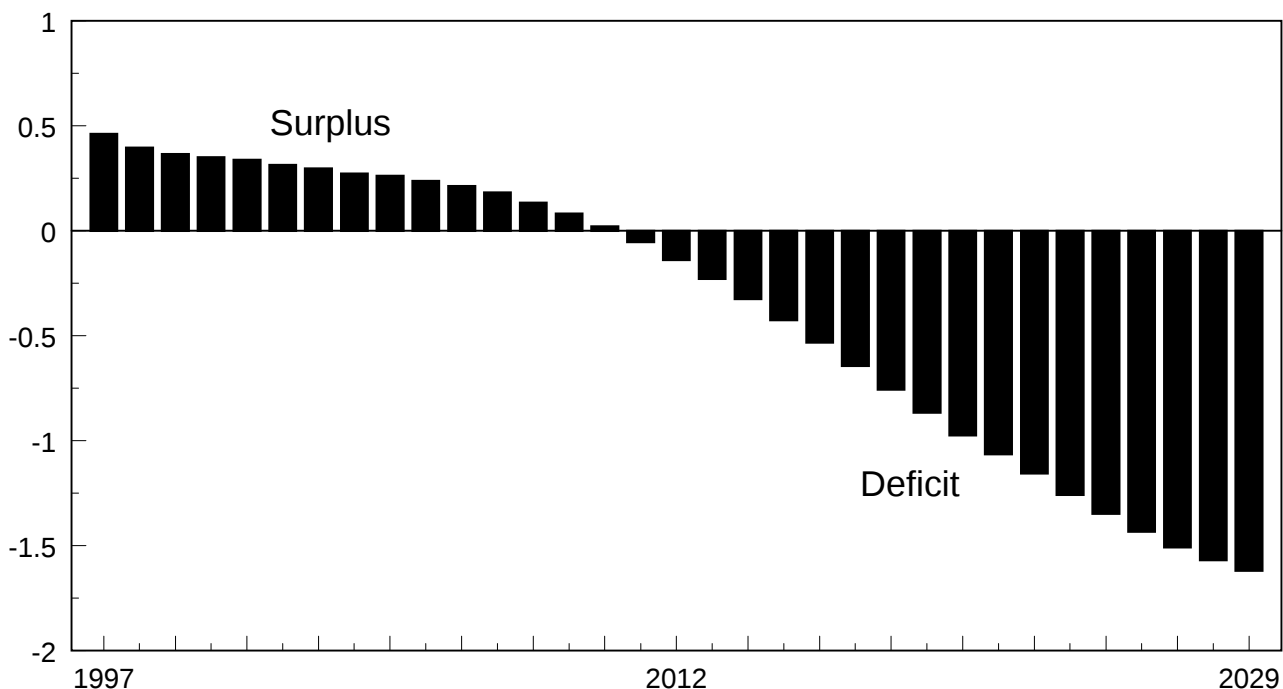
¹Social Security consists of two separate trust fund accounts: Old-Age and Survivors Insurance (OASI), which funds retirement and survivor benefits, and Disability Insurance (DI), which provides benefits to disabled workers and their families. These two accounts are commonly combined in discussing the Social Security program. For the purposes of this report, any reference to the Social Security trust fund refers to the combined OASDI trust funds.

²Throughout this report, we relied on data from The 1997 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds, hereafter "the 1997 Trustees' Report." Under the Social Security Act, the Board of Trustees is required to report annually to the Congress on Social Security's financial and actuarial status. We used the intermediate assumptions, which reflect the Board of Trustees' best estimate. Due to the inherent uncertainty surrounding long-term projections, the Trustees' report also includes two other sets of assumptions, a high cost and a low cost alternative.

³Regardless of whether the trust fund is drawing on its interest or principal to pay benefits, the Treasury will need to raise the required cash.

revenues will cover only about 75 percent of expected benefit payments. In short, the program as currently structured is unsustainable.⁴

Figure 1.1: Social Security's Projected Cash Surpluses and Deficits as a Percentage of GDP (1997-2029)
Percentage of GDP



Note: Calendar year data.

Source: GAO analysis of 1997 Trustees' Report, intermediate assumptions.

These trends in Social Security's finances will place a significant burden on future workers and the economy. Without major policy changes, the relatively smaller workforce of tomorrow will bear the brunt of tax increases, spending cuts, or borrowing⁵ needed to finance Social Security's

⁴Retirement Income: Implications of Demographic Trends for Social Security and Pension Reform (GAO/HEHS-97-81, July 11, 1997).

⁵If the unified budget were in surplus, then financing Social Security's cash deficit would result in less debt redemption rather than requiring increased borrowing.

cash deficit. In addition, the future workforce also would likely be affected by any reduction in Social Security benefits or increased payroll taxes needed to resolve the program's long-term financing shortfall.

Stock Investing Suggested to Help Solve Social Security's Financing Problem

In its report to the Social Security Commissioner, the 1994-1996 Advisory Council on Social Security ("the Advisory Council") offered three alternative reform proposals. While the Advisory Council could not agree on a single plan for dealing with Social Security's difficulties, the members did agree that investing in the stock market would yield higher returns for financing retirement benefits. One approach was to maintain Social Security's current benefit and taxation structure and allow the government to invest directly in the stock market. The other two approaches would significantly restructure Social Security and allow stock investing through accounts owned and controlled by individuals.

The "Maintain Benefits" plan—supported by 6 of the Advisory Council's 13 members—recommended a traditional package of tax and benefit changes. These changes were projected to solve about two-thirds of Social Security's long-term financing problem. To close the remaining gap, the plan called for studying the possibility of allowing the Social Security trust fund to invest in the stock market. According to the plan's estimates, gradually investing up to 40 percent of the Social Security trust fund in stocks could obviate the need for further tax increases or benefit cuts. The plan also outlined that the government's portfolio would be passively managed and selected using a broad market index ("indexing").

The seven other Advisory Council members opposed government investment in the stock market. They believed that there would be tremendous political pressures to steer the Social Security trust fund's investments to achieve other economic, social, or political purposes rather than basing decisions solely on the trust fund's expected risk and return. Even the Maintain Benefits proponents were concerned about how to handle the government's stock voting rights so as to neutralize the potential effect on individual companies or industries.

Pension Funds Invest in a Mix of Assets

The Advisory Council's Maintain Benefits plan pointed out that although investing in the stock market would be a new concept for Social Security, it is a standard practice for public and private sector pension funds. Pension funds invest in a wide mix of assets, often placing a majority of their funds in the stock market. Pension funds accumulate substantial

assets from contributions by employers and employees to finance future retirement benefits. Investment earnings on these funds contribute considerable revenue and reduce the amount of money that would otherwise have to be contributed to pay pension benefits. In determining how to allocate their portfolios among different types of assets, pension funds must balance the trade-off between earning a good long-term return and minimizing the risk of loss. As of the third quarter of 1997, private sector pension funds had \$3.5 trillion in assets, and state and local pension funds had \$2 trillion.⁶ Overall, pension funds held about \$3.4 trillion in stocks, or about 60 percent of their total assets. Pension funds own about a quarter of total U.S. stock holdings, valued at \$12.8 trillion at the end of the third quarter of 1997.⁷ U.S. government securities accounted for about 15 percent of pension funds' holdings. Pension funds also invest in mortgages, real estate, and other assets, including venture capital. Table 1.1 illustrates the mix of assets held by private sector as well as state and local government pension funds as of the third quarter of 1997.

Table 1.1: Asset Mix of Private Sector and State and Local Government Pension Funds

Percentages		
Asset type	Private sector	State and local governments
U.S. and foreign stocks	62	61
U.S. government securities ^a	12	15
Corporate and foreign bonds ^b	9	9
Cash and short-term instruments	5	4
Other investments	12 ^c	11

^aIncludes U.S. Treasury and agency securities.

^bMunicipal securities represent less than 0.5 percent of pension assets. Pension funds as a whole do not invest in municipal securities issued by state and local governments. Most municipal securities are exempt from federal income taxation, and their yield is lower than that of Treasury securities with the same maturity.

^cIncludes 7 percent in contracts with private insurance companies.

Source: Flow of Funds Accounts of the United States, Federal Reserve statistical release for the third quarter of 1997, tables L.119 and L.120, p.76.

Although Social Security is not a pension fund, the experience of public pension funds may yield some insight into the implications of the federal

⁶Flow of Funds Accounts of the United States, Federal Reserve statistical release for the third quarter of 1997, tables L.119 and L.120, p. 76.

⁷Flow of Funds Accounts of the United States, Federal Reserve statistical release for the third quarter of 1997, table L.213, p. 90.

government allowing the Social Security trust fund to invest in the stock market.⁸ A public pension fund operates under a legal framework established by its sponsoring government.⁹ A government may choose to restrict its public pension fund from investing heavily in risky assets. Also, a government may use public pension investments to further other policy objectives. Moreover, some state and local pension plans actively participate in the management decisions of the companies in which they invest by exercising their shareholder voting rights.¹⁰

The Advisory Council's Maintain Benefits plan pointed out that, in fact, a few federal pension plans invest in assets other than Treasury securities. Most notably, the federal employees' Thrift Savings Plan (TSP) has passively-managed indexed stock investments similar to those that have been proposed for Social Security. However, in one major aspect, the Thrift Savings Plan is not comparable to the Social Security trust fund—federal employees, not the government, own and control the investment of their individual account balances. For this reason, the transactions of TSP are not included in the unified federal budget.

There are other limits to comparing the Social Security trust fund to pension funds. Although Social Security resembles a traditional pension plan in that retirement benefits are based on earnings and work time, the Congress has the ability to change the legislation governing benefits at any time. Social Security is not just a retirement program—it is also a social insurance program with additional goals for income redistribution and protection for survivors, dependents, and disabled workers. Moreover, Social Security is financed largely on a pay-as-you-go basis, whereas pension plans are generally funded in advance.¹¹ Finally, the sheer size and scope of Social Security dwarfs U.S. pension funds.

⁸For further information, see (1) Paul Zorn, 1995 Survey of State and Local Government Employee Retirement Systems (The Public Pension Coordinating Council, 1996), (2) Catherine Baker Knoll, "The Knoll Survey of State Public Pension Funds Investment Policies and Practices," presented at the National Association of State Treasurers Public Pension Fund Conference (1995), (3) Olivia S. Mitchell and Ping Lung Hsin, "Public Pension Governance and Performance" (National Bureau of Economic Research Working Paper No. 4632, January 1994), and (4) Girard Miller, Pension Fund Investing (Chicago, Illinois: Government Finance Officers Association, 1987).

⁹See Cynthia L. Moore, Protecting Retirees' Money: Fiduciary Duties and Other Laws Applicable to State Retirement Systems, 3rd ed. (National Council on Teacher Retirement, 1995).

¹⁰See Roberta Romano, "Public Pension Fund Activism in Corporate Governance Reconsidered," Columbia Law Review, Vol. 93, No. 4 (1993), pp. 795-853.

¹¹The Employee Retirement Income Security Act of 1974 (ERISA) requires private sector pension plans to be funded on a sound actuarial basis. ERISA does not apply to state and local pension plans; their funding requirements are set by their sponsoring governments. See Public Pensions: State and Local Government Contributions to Underfunded Plans (GAO/HEHS-96-56, March 14, 1996) for a discussion of funding of these plans.

Given that Social Security is national in scope, the experiences of central governments in other nations may yield insights. As described in figure 1.2, Canada is implementing a new investment plan allowing its national program that provides retirement and disability benefits to invest in stocks.

Figure 1.2: Canadian Pension Plan to Invest in Stocks

The Canadian Pension Plan (CPP) is broadly similar to the U.S. Social Security program. It provides a basic retirement benefit for all Canadian workers and their families, as well as benefits in the event of serious disability or death. Like Social Security, it is financed by a payroll tax on workers and their employers and interest earned on the program's assets. In 1997, Canada announced reforms intended to ensure the CPP's financial sustainability for future generations through a combination of revenue increases, spending cuts, and higher investment earnings. Currently, the CPP invests in provincial government debt securities. Under the new policy, the CPP will invest in a diversified portfolio with the objective of earning a higher rate of return. The CPP will be allowed to invest in stocks, with some portion of its assets in foreign stocks. To ensure accountability to the public and governments, the CPP will publicly disclose its investment policies and issue periodic financial reports. For additional details on the CPP reforms, see the Canadian Pension Plan's site on the Internet at <http://www.cpp-rpc.gc.ca/> and David W. Slater, "Prudence and Performance: Managing the Proposed CPP Investment Board," C.D. Howe Institute Commentary 98 (Toronto, Canada: C.D. Howe Institute, October 1997)

Objectives, Scope, and Methodology

To better understand the implications of the Social Security trust fund investing in the stock market and of the federal government owning and managing a portfolio of stocks, we considered three different perspectives: the trust fund, the U.S. economy, and the federal budget. At the request of the Senate Special Committee on Aging, we specifically addressed the impact of government stock investing on (1) the investment earnings, investment risks, and financial solvency of the Social Security trust fund, (2) national saving and the financial markets, including implementation issues presented by the government selecting and managing its stock portfolio, and (3) the federal budget and federal debt.

We reviewed the final report of the 1994-1996 Advisory Council on Social Security as well as the technical reports and presentations to the Advisory

Council.¹² Our report, however, neither evaluates the Advisory Council's specific government investment proposal nor addresses its other proposals to establish individually-owned accounts. To fully understand the effects of government investing in stocks, we also studied such a change in trust fund investment policy in isolation from any other program changes in Social Security. Therefore, our report is limited to an analysis of altering Social Security's investment policy and only indirectly addresses the broader issue of the program's long-term financing needs.

For the trust fund analysis, we concentrated on the potential returns and risks of stock market investing for Social Security in isolation from other program changes. We researched economic and finance literature and interviewed market experts in both academia and the private sector to identify historical stock return data and major trends that could affect future stock performance. Also, we identified the general risks inherent in stock market investing and attempted to distinguish risks unique to the Social Security trust fund investing in the stock market in isolation from other program changes. As a point of comparison, we also examined pension literature and research documenting the general investment practices of public pension plans, but a detailed discussion of those practices was beyond the scope of this report.

We simulated two stock investment scenarios to illustrate how changing the investment policy can affect the future outcome for the Social Security trust fund. We developed an aggressive scenario where the trust fund would maintain a reserve of Treasury securities equal to at least 100 percent of annual expected expenditures and invest its future annual cash surplus and interest earned on its Treasury securities in the stock market. We also tested a more conservative scenario investing only Social Security's annual cash surplus in the stock market. The simulations use the historical average real return on stocks that the Advisory Council assumed in estimating future stock performance as well as its assumption about administrative costs on the trust fund's investments. At our request, the Social Security Administration's (SSA) Office of the Chief Actuary simulated the potential effect on the trust fund of these two investment scenarios using the Social Security Trustees' 1997 intermediate assumptions about future program revenues and expenditures as well as their demographic and economic assumptions. We did not audit or validate SSA's actuarial projections. For details of the simulation assumptions, see appendix I.

¹²Report of the 1994-1996 Advisory Council on Social Security, 2 vols. (Washington, D.C.: Government Printing Office, 1996).

Simulations are useful for comparing alternative investment policies within a common framework; however, they should not be interpreted as forecasts of future stock performance. In light of the uncertainty about future stock returns, we also tested a stock return that is 1 percentage point lower than the historical average. This alternative return is intended only to demonstrate that stock investment simulation results are sensitive to the rate of return assumed. The results of our simulations are not intended to represent the full range of expected future returns on stocks or possible outcomes for the Social Security trust fund.

For the market analysis, we considered (1) the potential impact of government stock investing on national saving as well as the financial markets, (2) the benefits and limitations of an indexing investment strategy typically proposed for government stock investing, and (3) implementation issues the government would face in selecting and managing its stock portfolio. We also reviewed economic and finance literature pertaining to saving, asset prices, and market behavior in general. To identify specific market effects that could result from government stock investing and other implementation issues, we interviewed officials at the Department of the Treasury, the Securities and Exchange Commission (SEC), and the Federal Retirement Thrift Investment Board as well as economists and finance experts in academia and the private sector. We reviewed records of congressional hearings, studies, and articles pertaining to the concept of the government investing in private financial markets.

For the budget perspective, we considered the short- and long-term fiscal effects of stock market investing for the federal budget and federal debt. To address these questions, we surveyed the literature on Social Security and the federal budget and interviewed Social Security officials and federal budget experts from the Office of Management and Budget (OMB), the Congressional Budget Office, and the Congressional Research Service, as well as private organizations.

While this report focuses on stocks, there are other investment options beyond Treasury securities. A number of policymakers and Social Security reformers have offered proposals to allow Social Security to invest in other assets, such as bank certificates of deposit, municipal bonds, and corporate bonds. The choice of the most appropriate investment policy is a decision to be made by the Congress and the President after weighing the potential returns and risks of various asset types.

We performed our work from September 1996 to January 1998 in accordance with generally accepted government auditing standards. We requested comments on a draft of this report from the Commissioner of SSA, the Secretary of the Treasury, the Chairman of SEC, and the Director of OMB. Staff from these agencies provided technical comments, which we incorporated in the report as appropriate. We also received comments from other experts in budget policy and Social Security financing and have incorporated them as appropriate.

The Federal Budget, the Economy, and the Social Security Trust Fund

Any analysis of changes in Social Security's investment policy must recognize the role of Social Security in the federal budget and the economy. Within the federal budget, Social Security is a trust fund account. It is also the single largest spending program in the budget. The Social Security trust fund currently receives more tax revenue each year than is needed to pay current benefits. The resulting cash surplus, by law, is invested in Treasury securities, which reduces the Treasury's need to borrow from all other sources to finance spending on other governmental activities. While the trust fund's Treasury securities represent assets for Social Security, they are future claims against the Treasury. Social Security's size means not only that it dominates the budget but also that any program reforms could have significant implications for the national economy. A critical factor to consider in looking at those implications is how changes in Social Security might affect national saving, which is a key determinant of long-term economic growth.

Social Security Trust Fund Is a Budget Account

Social Security is a trust fund account within the federal budget.¹ Trust funds are budget accounts that are used to record receipts and expenditures earmarked for specific purposes and designated as "trust funds" by law. Most federal trust funds, including Social Security, do not have the fiduciary relationships that characterize private trust funds. The Office of Management and Budget (OMB) summarizes the differences between federal and private trust funds as follows:

"The beneficiary of a private trust owns the trust's income and often its assets. A custodian manages the assets on behalf of the beneficiary according to the stipulations of the trust, which he cannot change unilaterally. In contrast, the Federal Government owns the assets and earnings of most Federal trust funds, and it can unilaterally raise or lower future trust fund collections and payments, or change the purpose for which the collections are used, by changing existing law."²

As OMB's description makes clear, the Congress has the ability to alter the legislation establishing trust fund revenues and spending. For example, the Congress has made a number of changes to Social Security since the

¹Of the federal budget's approximately 1,300 accounts, about 180 are trust fund accounts. For more details on trust funds, see David Koitz and Dawn Nuschler, *Federal Trust Funds: How Many, How Big, and What Are They For?* (Congressional Research Service, 96-686 EPW, August 30, 1996); *Analytical Perspectives*, Chapter 17, "Trust Funds and Federal Funds" (Washington, D.C.: Government Printing Office, February 1998); and *Social Security: The Trust Fund Reserve Accumulation, the Economy, and the Federal Budget* (GAO/HRD-89-44, January 19, 1989). For more details on budget accounts in general, see *Compendium of Budget Accounts: Fiscal Year 1998* (GAO/AIMD-97-65, April 1997) and *Budget Account Structure: A Descriptive Overview* (GAO/AIMD-95-179, September 18, 1995).

²*Analytical Perspectives*, p. 321.

program's inception in the mid-1930s, either to expand the program or strengthen its financial condition.

Federal trust fund income and expenditures are typically recorded by posting special interest-bearing nonmarketable securities to the Treasury's accounts. These special securities represent obligations that the government has issued to itself. Therefore, from the standpoint of the Treasury, they are not assets, but, instead, future claims. For the Social Security trust fund, special Treasury securities do represent assets—they signify a reserve of budget authority for meeting its benefit obligations. As long as the Social Security trust fund has a balance, the Treasury is authorized to make payments on the trust fund's behalf. When a trust fund runs an annual surplus as is currently the case with Social Security, its balance of Treasury securities increases. When a trust fund runs an annual deficit as has recently been the case with Medicare's hospital insurance fund,³ it redeems some of its Treasury securities in order to pay benefits, and its balance declines.

Social Security and Federal Retirement Trust Funds Have Long-term Perspective

Social Security and federal retirement trust funds differ from other federal trust funds in that they necessarily have a long time horizon. Workers covered by Social Security and federal retirement programs build up their eligibility for benefits in the present and receive benefits in the future when they retire. This long-term view is reflected both in the annual projections for Social Security and federal retirement funds, which look several decades into the future and, to some extent, in the longer maturities of the special Treasury securities that the funds hold. (See table 2.1.) For example, 78 percent of special Treasury securities held by the Social Security trust fund and 68 percent in the civil service retirement fund were due to mature after 2005. In contrast, all special Treasury securities held by the transportation trust funds are due to mature before 2001, reflecting a shorter term outlook. Since financial experts agree that a successful stock investing strategy should be grounded in a long-term outlook, the idea of government stock investing could be considered more appropriate for retirement-oriented accounts.

³Annual outlays for Medicare's Hospital Insurance trust fund exceeded annual income, including credited interest, in fiscal years 1995, 1996, and 1997. These deficits required the fund to draw down its balance of Treasury securities.

Table 2.1: Maturities of Treasury Securities Held by Selected Trust Funds

Trust fund budget account	Total holdings (dollars in billions)	Percent of Treasury securities due to mature in the period		
		1997-2000	2001-2005	After 2005
Social Security's Old Age Survivors' and Disability Insurance trust fund	\$631	6	16	78
Civil Service Retirement and Disability Fund	\$398	13	19	68
Military Retirement Fund	\$126	11	38	51
Bank Insurance Fund	\$26	46	46	8
Airport & Airways and Highway trust funds	\$29	100	0	0

Source: Bureau of the Public Debt, Government Account Series, Monthly Principal Outstanding Report, September 30, 1997.

While federal employee retirement funds share with Social Security the long-term outlook that is a prerequisite for stock investing, Social Security's greater size and prominence mean that more attention has been focused on changing its investment policy. Social Security is the largest federal trust fund—in terms of both annual spending and account balance. With fiscal year 1997 outlays of \$365 billion, the fund accounts for over one-fifth of all federal spending and is the largest single item in the federal budget. At the end of fiscal year 1997, the Social Security trust fund held \$631 billion of special Treasury securities (39 percent of all outstanding Treasury securities in the Government Account Series).

Social Security's Current Investment Policy

Traditionally, Social Security has been financed on a pay-as-you-go basis under which each current working generation pays for the benefits of the retired generation. In this type of system, annual revenues and benefit payments are roughly equal, while a contingency reserve is maintained to weather short-term events such as economic downturns. However, during the late 1970s and early 1980s, Social Security's expenditures regularly exceeded revenues, causing a rapid decline in the fund's balance and raising concerns about the program's solvency. In response, the Congress passed reforms in 1977 and 1983 that together were intended to assure Social Security's solvency for a 75-year period. These reforms included both tax increases and reductions in benefits, such as raising the normal retirement age for future workers. In enacting the 1983 reforms, policymakers erred on the side of caution by using fairly pessimistic

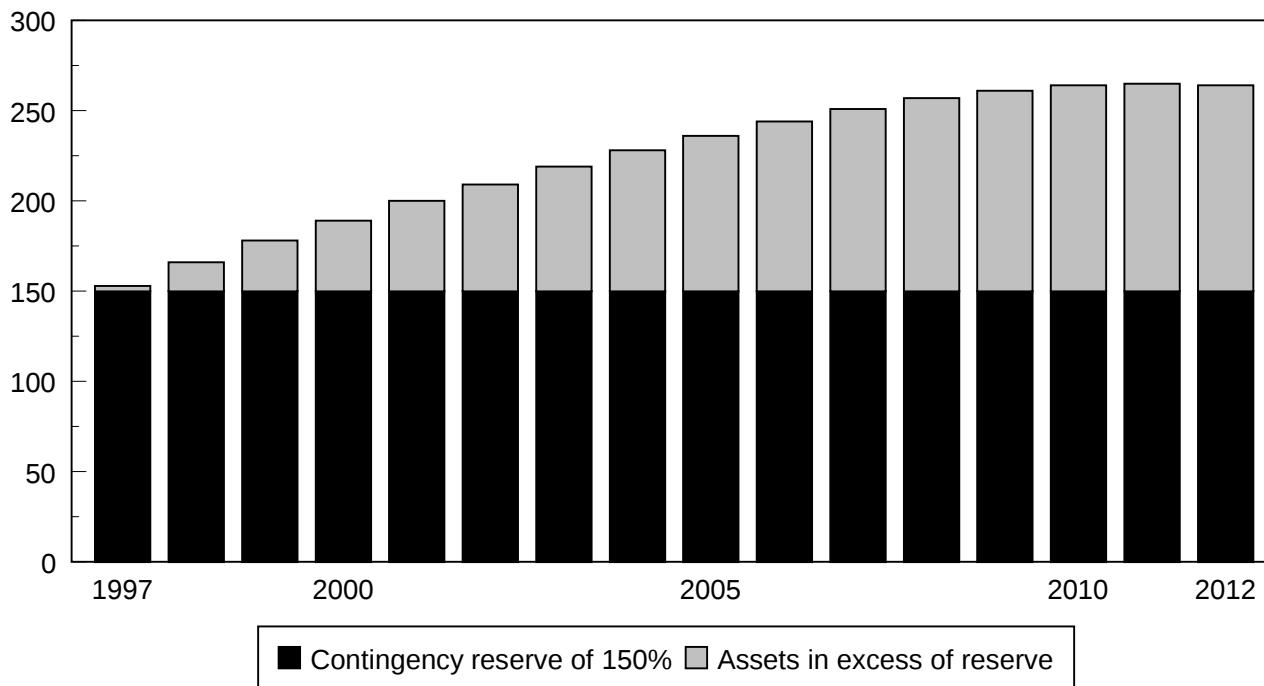
assumptions for the short term. As a result, annual surpluses turned out to be larger than anticipated.⁴ One of the goals of the reforms was to restore Social Security's contingency reserve. According to analysts of Social Security, a prudent reserve ranges from 1 to 1-1/2 year's worth of anticipated spending.

A combination of annual cash surpluses in recent years and the interest credited on its Treasury securities has brought the Social Security trust fund to the top of this range. As shown in figure 2.1, the trust fund's balance as a percentage of expected annual benefits is projected to continue growing until it peaks in 2011 at over 2-1/2 years' worth of expected benefits. At this level, the fund balance would substantially exceed the reserve recommended for short-term contingencies. In theory, this "excess" amount could be used to help cover some of the costs of the baby boomers' retirement. However, this amount is relatively small when compared to Social Security's expected future costs.

⁴For more details on the intent of the 1983 reforms, see David Stuart Koitz, Social Security Financing Reform: Lessons From the 1983 Amendments (Congressional Research Service, 97-741 EPW, July 24, 1997).

Figure 2.1: Projected Buildup in Social Security Reserve (1997-2012)

Assets as a percentage of projected annual spending



Source: 1997 Trustees' Report, intermediate assumptions.

The Social Security trust fund, by law, must invest in “interest-bearing obligations of the United States or in obligations guaranteed as to both principal and interest by the United States.” This investment policy, described more fully in chapter 3, dates back to the program’s origin in 1935 and is intended to ensure the safety of the trust fund’s assets. Treasury securities are widely considered to be a risk-free investment in the sense that the federal government has never defaulted on its debt obligations and is not expected to do so in the future. Throughout its history, the Social Security trust fund has invested mostly in a special type of Treasury security that cannot be sold on the open market. The trust fund’s Treasury securities represent a reserve for the program, allowing Social Security to pay benefits as long as it has a balance in its account. When the trust fund needs to draw down its balance, the Treasury must

obtain the necessary money to repay the trust fund by borrowing from the public, unless the Congress and the President take offsetting actions to raise taxes or cut spending.

The trust fund's special Treasury securities earn interest credits at a statutory rate linked to market yields. These interest credits take the form of additional Treasury securities and add to the trust fund's balance. In recent years, interest credits have accounted for a growing share of annual trust fund income. Between calendar years 1985 and 1996, the trust fund's interest credits grew from 1 percent of its total income to 9 percent. By 2012, interest credits are projected to rise to 14 percent of total income. While the interest is added to tax revenues in assessing the finances of the Social Security trust fund, the cash surplus is more meaningful in the broader budgetary and economic context.

Social Security's Place Within the Federal Budget

Social Security is not included in the measure of the federal budget that is used as the basis for the budget controls under the Budget Enforcement Act. This measure is known as the "on-budget" deficit.⁵ However, Social Security's "off-budget" status does not change the impact that its finances have on the government's overall fiscal position, as explained in the following passage from a Congressional Budget Office (CBO) report:⁶

"Social Security's benefits alone account for more than one-fifth of federal spending, and its payroll taxes account for about one-fourth of government revenues. Therefore, most economists, credit market participants, and policymakers, when they seek to gauge the government's role in the economy and its drain on the credit markets, look at the total budget figures—including Social Security."

As indicated by CBO, Social Security is included in the most commonly used measure of the government's financial balance, known as the unified, or "total," budget deficit/surplus.⁷ The unified budget measure includes all federal spending and revenue and generally approximates the amount of annual federal borrowing from the public. Including the Social Security cash surplus in the unified budget means that it partially offsets a deficit in all other government accounts. For example, in fiscal year 1997, a

⁵Social Security was legally removed from all calculations of budget totals by the Budget Enforcement Act of 1990 (Public Law 101-508). For further details on Social Security's budgetary treatment, see David Koitz, *Social Security: Its Removal From the Budget, and Procedures for Considering Changes to the Program* (Congressional Research Service, 93-23 EPW, Revised January 4, 1993).

⁶The Economic and Budget Outlook: Fiscal Years 1999-2008, Congressional Budget Office, January 1998, p. 34.

⁷Unless otherwise noted, any reference to the deficit in this report means the unified budget deficit.

\$62 billion cash deficit in other government accounts was offset by a \$40 billion cash surplus in Social Security, resulting in a unified budget deficit of \$22 billion. The interest credited to the trust fund does not currently affect the unified deficit because it is an internal transaction of the government. One part of the government (the Treasury) credits the interest to another part (the trust fund), so the two transactions offset one another and there is no net budgetary effect.⁸

Since Social Security's annual cash surplus is available to the Treasury to help finance current spending, it reduces the Treasury's need to borrow from other sources.⁹ Treasury borrowing from Social Security and other federal trust fund accounts is referred to as "debt held by government accounts." Treasury borrowing from all other sources (e.g., individuals, pension funds, and financial institutions) is called "debt held by the public." Together, these two types of debt comprise the gross federal debt.¹⁰ Debt held by the public is a more commonly used measure because it best represents the current impact of past federal borrowing on the economy. In contrast, debt held by trust funds is an internal government transaction that has no current impact—its economic effects are not felt until a trust fund needs to draw on its Treasury securities to make program expenditures.¹¹

Federal Fiscal Policy and National Saving

As described above, Social Security's finances have a significant influence on the government's overall fiscal position. The government's fiscal position, in turn, affects national saving, which is a key determinant of long-term economic growth. Saving is that portion of income not used for current consumption. The nation's saving is composed of the private saving of individuals and businesses and the saving or dissaving of all levels of government. In general, government budget deficits subtract from national saving by absorbing funds that otherwise could be used for private investment. Conversely, government budget surpluses add to

⁸Besides interest credited to trust funds, other intragovernmental transactions (such as the payments from the Treasury's general fund to Medicare's Supplementary Medical Insurance trust fund) also do not affect the government's current borrowing requirement.

⁹If, as currently projected, the federal government experiences a period of unified budget surpluses, the Treasury would essentially no longer need to borrow additional funds from other sources except to roll-over existing debt. In this case, at least a portion of Social Security's cash surplus could be used to reduce the level of debt held by the public. In any case, by law, the Social Security trust fund would continue to invest in Treasury securities as long as Social Security were in a surplus position.

¹⁰With a few minor exceptions, the gross debt is the measure that is subject to the debt limit.

¹¹For further information on federal debt, see [Federal Debt: Answers to Frequently Asked Questions \(GAO/AIMD-97-12, November 27, 1996\)](#).

saving. In the case of the federal government, surpluses allow the government to pay off some of its maturing debt, thereby reducing the outstanding level of debt held by the public and freeing up additional funds for private investment.

Since the 1970s, private saving has declined, while federal budget deficits have consumed a large share of these increasingly scarce savings. In recent years, federal deficits have declined sharply from the levels of the 1980s and early 1990s, freeing up some additional funds for investment. Nevertheless, total national saving and investment remain significantly below the levels of the 1960s and 1970s. Raising saving and investment levels would improve the long-term productivity of the economy, thereby boosting economic growth.

The most direct way for the federal government to contribute to increased saving and long-term economic growth is to achieve and maintain a balanced budget or a budget surplus. While such a fiscal policy would raise the government's contribution to national saving, it would probably not raise total national saving dollar for dollar. The overall impact on national saving depends on how consumers respond to the government's fiscal actions. For example, cuts in federal spending or increased taxes could cause a reduction in private saving that would diminish the total impact on national saving.

While additional fiscal restraint would probably reduce consumption in the short term, it would promote higher living standards over the long term. In a report issued last fall and in subsequent testimony, we found that alternatives to current fiscal policy that emphasize additional restraint could, over the long term, significantly boost per capita GDP.¹² Taking actions to increase the size of the future economy is particularly important because of the aging population. A bigger economic pie would make it easier for future workers to meet the dual challenges of paying for the baby boomers' retirement and achieving a rising standard of living for themselves.

¹²Budget Issues: Analysis of Long-Term Fiscal Outlook ([GAO/AIMD/OCE-98-19](#), October 22, 1997) and Budget Issues: Long-Term Fiscal Outlook ([GAO/T-AIMD/OCE-98-83](#), February 25, 1998).

Balancing Potential Returns and Risks for the Social Security Trust Fund

Designing an investment policy for the Social Security trust fund involves balancing potential returns and risks. Currently, the Social Security trust fund, by law, invests in securities backed by the federal government and receives a relatively low return with minimal risk. Investing in the stock market offers the prospect of higher returns but greater risk.

The higher returns possible with stock investing would allow the trust fund to pay benefits longer, even without other program changes. Assuming the historical average rate of return, investing Social Security's future annual cash surplus and interest on its Treasury securities in the stock market could delay the trust fund's exhaustion by about a decade.¹ If only Social Security's cash surplus is invested, then the possible delay in the trust fund's exhaustion would be reduced to 3 years. It is also important to recognize that any possible gain for the Social Security trust fund from a stock investment scenario would be significantly less if future stock returns fall below the historical average. The only way for the trust fund to earn the higher returns possible with stock investing is to take on greater risk. Diversifying the stock portfolio would reduce the risks associated with individual stocks, but the trust fund would still be vulnerable to loss in the event of a general stock market downturn.

Stock investing, by itself, is unlikely to solve Social Security's long-term financing problem. If stock investing is implemented in isolation from other program changes, the trust fund would face the certain need to liquidate its assets to pay benefits with no certainty of what future stock prices would be. The more the trust fund is counting on stock sales to pay promised benefits, the greater its vulnerability in the event of a general stock market downturn. In the future, the trust fund would be less vulnerable to the necessity of selling stocks at a loss if a stock investment policy were implemented in combination with other program changes that improve Social Security's financing. As part of a package, investing in stocks could increase the trust fund's expected investment income and reduce the size of benefit cuts and/or payroll tax increases.

¹We assumed that the trust fund would continue to hold enough Treasury securities as a contingency reserve to equal at least 100 percent of the next year's expected expenditures.

Special Treasury Investment Policy: Low Returns and Minimal Risk

Under the current law, the Secretary of the Treasury—managing trustee for the trust fund—is required to invest in special Treasury securities unless the Secretary determines that purchasing marketable Treasury and agency securities is “in the public interest.” In the past, the Treasury Department has, at times, determined that such purchases would be in the public interest, although such purchases have been rare.² With the practice of investing in special Treasury securities, the Social Security trust fund receives a relatively low return with minimal risk.

By law, the interest rate on special Treasury securities is equal, at the time of issue, to the average market yield on outstanding marketable government securities not due or redeemable for at least 4 years. According to the Congressional Research Service’s analysis of the law and practice governing Social Security’s investment policy, this statutory rate was intended to confer neither an advantage nor a disadvantage on the trust fund.³ From the trust fund’s perspective, the statutory rate represents a longer-term interest rate, and long-term interest rates have historically been higher than short-term rates. From the government’s perspective, the statutory rate was intended to approximate the cost of long-term borrowing from the public.⁴

Like Treasury securities sold to the public, special Treasury securities are backed by the full faith and credit of the U.S. government and are viewed as having no risk of default. Although it cannot sell its holdings in the open market, the Social Security trust fund faces no liquidity risk because, by law, it can redeem special Treasury securities before maturity without penalty. This liquidity feature is particularly important for the trust fund if it needs to dip into its assets to cover a payroll tax shortfall during a general economic downturn. Moreover, redeeming special Treasury securities before maturity presents no risk of loss due to interest rate fluctuations because the trust fund can recover the par value plus accrued interest. In contrast, the trust fund would have to sell marketable Treasury securities at the market price—which fluctuates inversely with market interest rates. The market price of a Treasury security falls when the current interest rate on Treasury securities of equal maturity rises. Selling

²As of 1996, marketable Treasury securities represented only 0.009 percent of the trust fund’s holdings.

³Geoffrey Kollmann, *Social Security: Investing the Surplus* (Congressional Research Service, 91-129 EPW, January 27, 1991).

⁴The average nominal interest rate on new special Treasury securities issued in 1996 was 6.6 percent. The average nominal rates for marketable medium- and long-term Treasury securities outstanding in 1996 was 6.5 percent for Treasury notes issued with a term of at least 1 year but not more than 10 years, and 9 percent for Treasury bonds with a term of more than 10 years.

marketable Treasury securities before maturity when market interest rates are rising could result in a sizable loss. In practice, the Treasury has allowed the Social Security trust fund to redeem its special Treasury securities at any time to pay benefits but not to do so solely for the purpose of maximizing the trust fund's return.

Like any investor, the Social Security trust fund faces the risk that its investment returns will be eroded by inflation. This is a particular concern given that Social Security benefits are indexed for inflation. Social Security beneficiaries receive an annual cost of living adjustment that is normally based on the Consumer Price Index. Under the intermediate scenario for the next 75 years, which the Trustees regard as their "best estimate," the ultimate nominal interest rate assumed over the long term is 6.2 percent, while annual inflation is assumed to be 3.5 percent. Thus, the trust fund is expected to receive an ultimate real (after inflation) interest rate of 2.7 percent on its Treasury holdings.

Although the current debate focuses on allowing the Social Security trust fund to invest in the stock market, there also are investment options within the federal government. Although the trust fund is not specifically authorized to do so by the Social Security Act, it may purchase securities issued by the Government National Mortgage Association, the Federal National Mortgage Association, and other Federal farm and home credit entities.⁵ The Advisory Council's Maintain Benefits approach suggested considering such investments to increase the trust fund's return. Agency securities typically pay more because they are not uniformly guaranteed as to principal and interest and there is some risk of default. And, like marketable Treasury securities, agency securities would expose the trust fund to potential losses due to fluctuating market prices.

Another option could be to change the statutory rate of interest for special Treasury securities. For example, the Congress could raise the rate by a fixed percentage or link the rate to a stock market index, such as the Standard and Poor's index of 500 large stock companies (S&P 500). The interest premium in excess of the average rate Treasury pays on debt held by the public would represent a general revenue transfer to the Social

⁵The Social Security Act requires that the Secretary of the Treasury invest trust funds in "interest-bearing obligations of the United States or in obligations guaranteed as to both principal and interest by the United States." Although certain federally sponsored agency obligations do not meet these criteria, the Secretary may invest in such obligations based on a 1966 opinion of the Attorney General. The opinion held that notwithstanding the absence of statutory language pledging the "faith" or "credit" of the United States, agency guaranties or other contractual liabilities issued in pursuance of an agency's statutory functions constitute "general obligations of the United States backed by its full faith and credit." Op. Atty. Gen. 327 (1966).

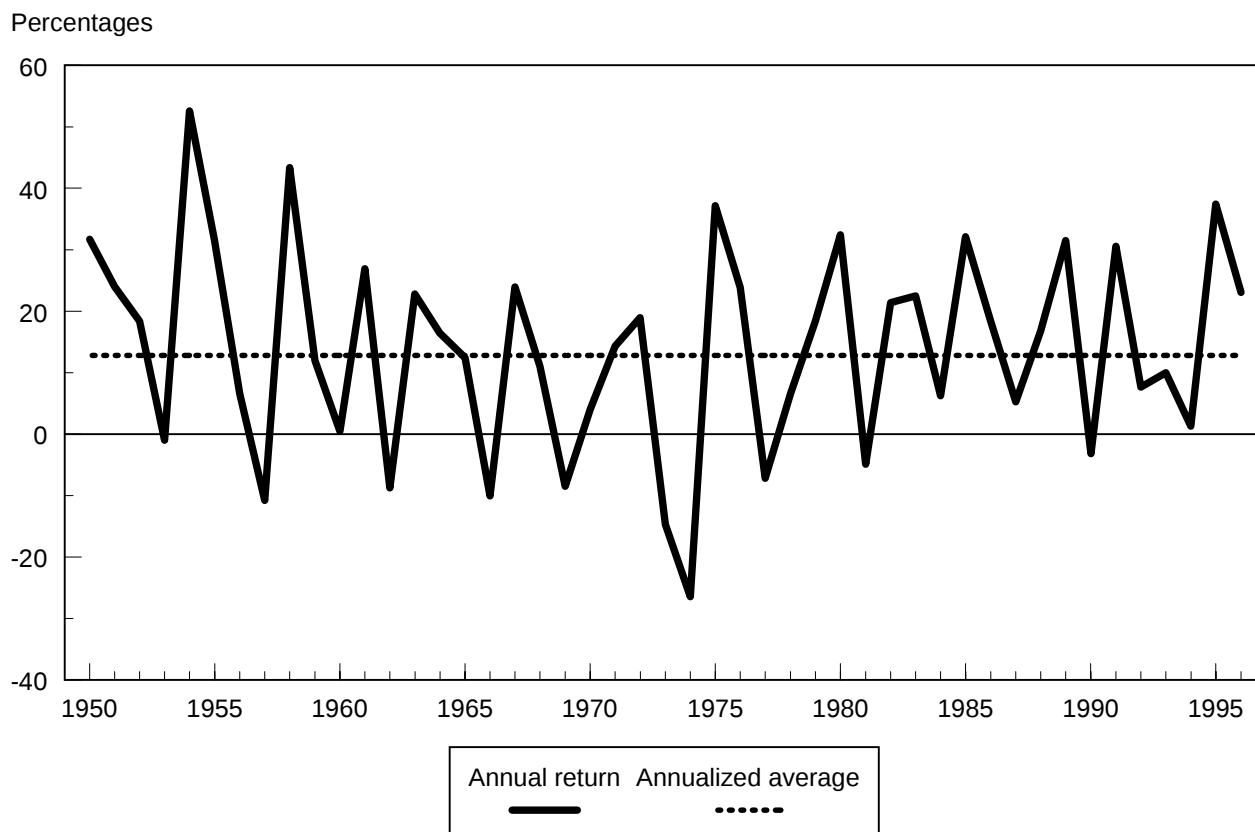
Security trust fund. Increasing the rate credited to the Social Security trust fund account would appear to boost the program's finances inasmuch as the trust fund's balance would increase. However, crediting more interest to the trust fund would not generate revenue for the government, so the government's capacity to finance retirement benefits would be unchanged.

Stock Returns Have Been Higher but Are More Uncertain

Historically, the rates of return on stocks have exceeded interest rates on Treasury securities, although stock returns are more variable. According to an analysis prepared for the Advisory Council, real yields on stocks—i.e., adjusted for inflation—have averaged about 7 percent.⁶ In its deliberations, the Advisory Council agreed to use this rate in estimating average future yields on stocks. Of course, an average return over a long period of time obscures the reality that stock returns fluctuate substantially from year to year, and there have been years in the past with negative returns. Figure 3.1 shows the annual returns—not adjusted for inflation—for large company stocks from 1950 to 1996. Actual nominal returns varied widely from the annualized average return over the period and ranged from a low of -26.5 percent in 1974 to a high of 52.6 percent in 1954.

⁶Joel Dickson, "Analysis of Financial Conditions Surrounding Individual Accounts," Report of the 1994-1996 Advisory Council on Social Security, Volume II, pp. 484-488. The stock market realized an annualized real yield of approximately 7 percent from 1900 to 1995.

Figure 3.1: Annual Returns on Large Company Stocks in Comparison to the Annualized Average Return for 1950 Through 1996



Note: Large company stock returns are based upon the S&P 500 index; before 1957, the index consisted of 90 of the largest stocks. The total annual return reflects capital appreciation and cash income during the year, assuming any income is reinvested, and does not reflect any transaction costs. The annualized average return for the period was 12.8 percent. This compound annual rate reflects the return over the period figured on a constant year basis, which is not the same as the arithmetic average of rates for each year.

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According to an analysis by the Congressional Research Service,⁷ the annualized average return for the S&P 500 since 1950 was almost twice the average rate credited on the Social Security trust fund's Treasury securities.⁸ Although the 30-year moving average of the S&P 500 since 1970 consistently outperformed the Treasury returns credited to the Social Security trust fund, the 10-year moving average of the S&P 500 underperformed the trust fund's Treasury returns at times. Again, a long-term average return does not reflect fluctuations in year-to-year stock returns. In fact, nominal stock returns were less than the Social Security trust fund's annual yield in 17 years from 1950 to 1996—more than 35 percent of the time.

Short-run fluctuations generally are less of a concern for a long-term investor who buys and holds investments. Table 3.1 illustrates the actual best and worst nominal returns on stocks as well as long-term government bonds for investment periods ranging in duration from 1 year to 20 years. An investor would face uncertain returns in the short term given that annual returns range widely and were negative in nearly 1 out of 4 years. Likewise an investor can lose money selling marketable government bonds before maturity because of bond price fluctuations. As table 3.1 shows, the range between the best and the worst returns narrows as the investment time horizon lengthens.⁹ Given that from 1926 to 1996, there was no 20-year period with a negative stock return, an investor might reasonably expect to earn a positive return over 20 years.

⁷Statement of David Koitz of the Congressional Research Service before the Subcommittee on Social Security of the House Committee on Ways and Means on April 10, 1997, at a hearing on the future of Social Security.

⁸According to the Congressional Research Service's analysis, since 1950, the annualized average nominal return for the S&P 500 was 11.36 percent assuming annual administrative costs of 1 percent, compared to 5.96 percent for the trust fund's nominal yield.

⁹The variation of returns around the expected average can be quantified in statistical terms, such as the standard deviation. For more data about stock and other asset returns, see Stocks, Bonds, Bills, and Inflation Yearbook (Chicago, Illinois: Ibbotson Associates).

Table 3.1: Best and Worst Returns on Large Company Stocks and Long-term Government Bonds for Varying Investment Periods From 1926 Through 1996

Percentages				
Investment period	Large company stock returns		Long-term government bond returns	
	Worst	Best	Worst	Best
1 year	-43.34	53.99	-9.18	40.36
10 years	-0.89	20.06	-0.07	15.56
20 years	3.11	16.86	0.69	10.45

Notes: Annual compound rates of return were calculated for overlapping holding periods from 1926 through 1996. For the 71 1-year holding periods, annual returns on large company stocks and long-term government bonds were positive in 72 percent of the years. For the 62 10-year holding periods, returns were positive in 97 percent of the periods for large company stocks and in 98 percent for long-term government bonds. For the 52 20-year holding periods, returns on large company stocks and long-term government bonds were positive in every period.

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Future Stock Returns Are Uncertain

There is no guarantee that investing in the stock market, even over 2 or 3 decades, will yield the long-run average return. According to economic and financial literature, there are reasons to believe that future stock returns could be less than the historical average.¹⁰ Also, as discussed in chapter 4, government investing by itself could affect stock prices and returns at least in the short run. While the average historical stock return is commonly used in assessing future stock performance, assuming a moderately lower return could also be consistent with the expected economic and demographic outlook.

An investor entering the market at today's high stock prices may earn less than the long-term historical average. Two fundamental measures for evaluating stock prices are the dividend yield—the ratio of annual dividends to stock prices—and the price-earnings ratio. According to an analysis of historical stock performance, returns on stocks over 10-year periods have been well below average when the dividend yield was low

¹⁰For example, see John E. Golob and David G. Bishop, "What Long-Run Returns Can Investors Expect from the Stock Market?" *Federal Reserve Bank of Kansas City Economic Review*, Vol. 82, No. 3 (Third Quarter 1997), pp. 5-20 and John H. Cochrane, "Where is the Market Going? Uncertain Facts and Novel Theories," *Economic Perspectives*, Vol. XXI, Issue 6 (November/December 1997), pp. 3-37.

and the price-earnings ratio was high.¹¹ Indeed, the stock market has been at record high levels in recent years, and the dividend yield is below long-run historical values.¹² Likewise, the price-earnings ratio is well above its long-run average. Some analysts have estimated that recent price-earnings ratios would be consistent with a 1 percentage point decline in the long-run return on stocks; in other words, future stock returns could decline from the historical real average of 7 percent to 6 percent over the long run.¹³

Another factor that may affect future stock returns is that the U.S. economy is expected to slow as the population ages. The rate of national saving and the growth in real wages and productivity, factors that relate to economic growth, have slowed notably in the past two decades.¹⁴ Social Security's Trustees assume future growth in the GDP will slow as the baby boom generation retires and relatively fewer young people begin work. Whereas the economy grew at an average real rate of 2.2 percent from 1989 to 1997, real economic growth under the Trustees' intermediate scenario is assumed to be 2.0 percent annually over the next decade and then to slow to 1.3 percent by 2020. Some economists have estimated that the macroeconomic and demographic outlook would be consistent with long-run stock returns lower than the historical average.¹⁵

Another uncertainty is whether the baby boomers' retirement might affect the stock market. As they retire, baby boomers are expected to sell stocks to finance consumption, and private pension plans likewise will sell stocks to finance retirement benefits. The Advisory Council's technical panel reported that selling pressure resulting from the sheer number of the baby boom retirees could possibly depress stock prices but that estimating any baby boom price effect would be highly speculative. Given that the financial markets and investors anticipate the aging of the population, asset prices may adjust downward gradually beforehand rather than

¹¹Burton G. Malkiel, *A Random Walk Down Wall Street* (New York City, New York: W.W. Norton & Company, 1996), pp. 384-389.

¹²Golob and Bishop, pp. 7-8, estimated that whereas the dividend yield for the S&P 500 had averaged about 4 percent since the 1950s, this ratio dropped below 2 percent for the first time in 1996 and has remained below 2 percent most of the time since then.

¹³Golob and Bishop, pp. 13, 14, and 16.

¹⁴See Retirement Income: Implications of Demographic Trends for Social Security and Pension Reform (GAO/HEHS-97-81, July 11, 1997).

¹⁵Golob and Bishop estimated that macroeconomic trends could reduce stock returns over the next decade by about one-half a percentage point, for a long-run real return of 6.5 percent. A 1997 report for the Twentieth Century Fund/Economic Policy Institute, *Saving Social Security With Stocks: The Promises Don't Add Up*, estimated that given the Trustees' other assumptions, future stock returns could be as low as 4.0 percent.

dropping abruptly when the baby boomers begin retiring. Also, some analysts, including those we interviewed, suggest that global demand for stocks could offset any baby boom price effect. For example, investors from countries with relatively younger populations might invest in the U.S. stock market to save for their own retirement even as the baby boomers are selling their stocks.

While future returns on stocks might reasonably be expected to be less than the historical average, analysts, including those we interviewed, expect stock returns to be higher than those on Treasury securities over the long term. How much higher is uncertain. The spread between the rates of return on stocks and Treasury securities has been shrinking. Historically, stocks have earned higher rates of return than those of Treasury securities to compensate for the additional risk associated with stocks. This “equity risk premium” has declined since the 1950s from about 7 percent to around 3 to 4 percent today.¹⁶ It is unclear whether this change will be long-lasting or whether the equity premium will decline even further. Some economists have suggested that the shrinking risk premium reflects a structural change in that the economy appears less susceptible to recessions.¹⁷ To the extent that corporate profits fluctuate with general economic conditions, fewer downturns translate into less volatility in corporate earnings. If investors perceive that the outlook for corporate earnings is more certain and that stocks may be less risky than they have been historically, stock investing might carry a lower premium and, therefore, relatively lower returns. The uncertainty about the risk and size of the risk premium have implications for analyzing the benefits of a stock investment proposal.¹⁸

Although investors believe that over the long run stock returns will always be higher than bond returns, one study has questioned this conventional wisdom.¹⁹ According to standard analytical models, stocks are virtually certain to outperform bonds over a long enough investment period. However, extrapolating from these standard models, the study estimated that a stock portfolio has a 32 percent chance of underperforming a bond

¹⁶For an historical examination, see Olivier J. Blanchard, “Movements in the Equity Premium,” *Brookings Papers On Economic Activity*, 2:1993, pp. 75-118.

¹⁷Goldman Sachs, “The Equity Risk Premium and the Brave New Business Cycle,” *U.S. Economics Analyst*, No. 97/8, February 21, 1997.

¹⁸For further reading, see Jeremy J. Siegel and Richard H. Thaler, “Anomalies: The Equity Premium Puzzle,” *Journal of Economic Perspectives*, Vol. 11, No. 1 (Winter 1997), pp. 191-200.

¹⁹Martin Leibowitz and William Krasker, “The Persistence of Risk: Stocks Versus Bonds Over the Long Term,” *Financial Analysts Journal*, November/December 1988, pp. 40-47.

portfolio over a 10-year horizon. Even over a 30-year investment time horizon, there is still about a 20 percent chance that a bond portfolio would provide a higher return. As this study indicates, investing in the stock market does not ensure a higher return than might be possible investing in government and corporate bonds.

Higher Returns Could Delay Exhaustion of the Social Security Trust Fund

If the stock market continues to outperform Treasury securities, the Social Security trust fund could increase its investment revenue with a stock investment policy. The higher returns possible on stocks would allow the Social Security trust fund, even without other program changes, to pay benefits longer before depleting its assets.²⁰ The potential gain from stock investing would depend on both how much the Social Security trust fund invests in the stock market and how much future stock returns are.

According to the Trustees' 1997 intermediate estimate, the trust fund expects to collect roughly \$30 billion more in cash than is needed to pay benefits each year from 1998 until 2008 and continue to receive some excess cash until 2012. In addition, the interest credited on the trust fund's special Treasury securities was roughly \$40 billion in 1997. Given that the Social Security trust fund's balance, beginning in 1997, was expected to exceed 150 percent of its annual expenses,²¹ the trust fund theoretically could start investing in stocks in 1998. Under the Trustees' intermediate projections, the trust fund does not anticipate that it would need to tap its investment income and assets to pay current benefits for nearly 15 years.

We developed two scenarios to illustrate the trust fund's potential gain from stock investing. Under an aggressive scenario, the trust fund would invest both its future annual cash surplus and interest in the stock market, while maintaining a contingency reserve of special Treasury securities equal to at least 100 percent of the next year's expected expenditures. We also tested an alternative scenario under which only Social Security's cash surplus would be invested in stocks, and Social Security's cash deficit, beginning in 2012, would be financed from stock earnings and sales. At our request, the Social Security Administration's Office of the Chief Actuary simulated the potential effect on the trust fund of these two investment scenarios using the Trustees' 1997 intermediate assumptions. The simulations use the 7-percent real yield on stocks assumed by the Advisory

²⁰This statement would also apply to other assets, such as corporate bonds, which could yield potentially higher returns than the current statutory policy of investing solely in Treasury securities.

²¹As discussed in chapter 2, a balance of 100 to 150 percent of anticipated annual spending is considered a prudent contingency reserve.

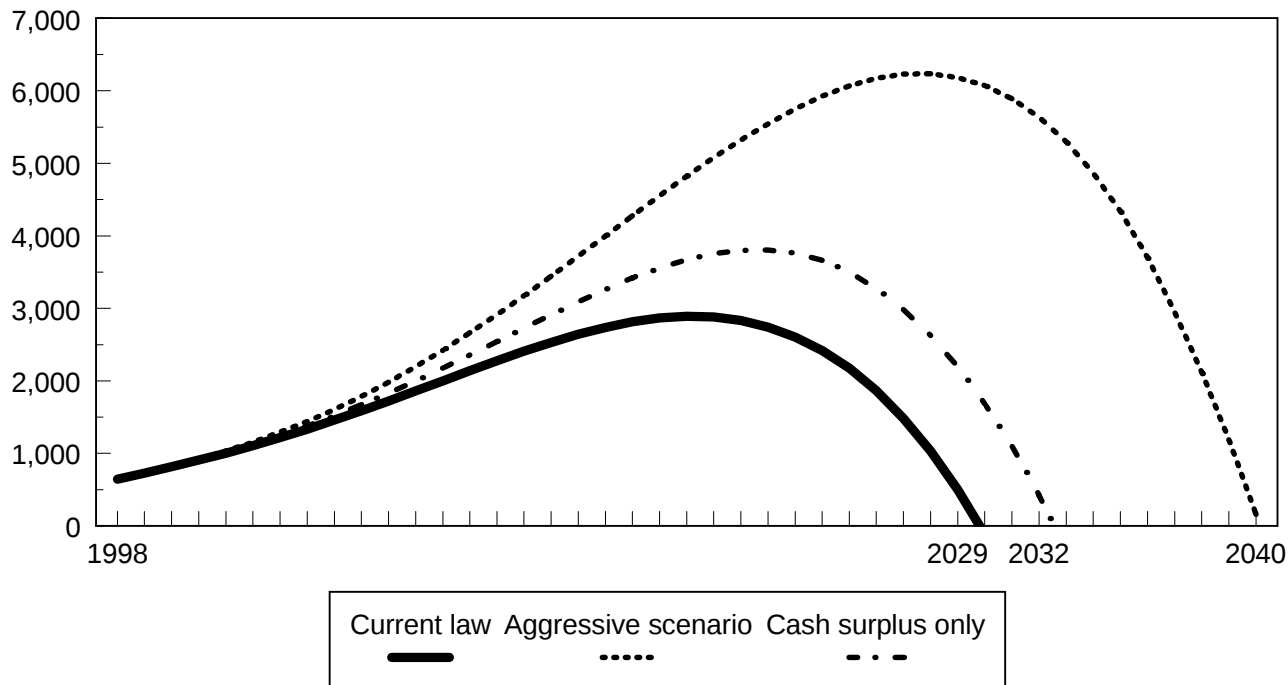
Council in estimating future stock performance. This historical average stock return is 4.3 percentage points higher than the trust fund expects on its special Treasury securities. In the simulations, stock earnings are assumed to be reinvested in the market unless the trust fund needs cash to pay benefits or to invest in Treasury securities to maintain a 100-percent contingency reserve. The simulations also reflect the Advisory Council's assumption that annual administrative costs for the trust fund's stock holdings would be 0.5 basis points.²² See appendix I for further discussion of our assumptions.

Figure 3.2 shows the estimated trust fund assets under the aggressive investment scenario compared to the cash surplus scenario as well as to the current statutory policy of investing solely in special Treasury securities. These simulation results illustrate some outcomes associated with our two alternative stock investment policies. They should not be interpreted as forecasts and do not represent the full range of possible outcomes for the Social Security trust fund.

²²A basis point is 1/100 of 1 percentage point, so one-half of a basis point is 0.00005.

Figure 3.2: Estimated Trust Fund Assets Under Current Law and Two Alternative Stock Investment Scenarios

Dollars in billions



Note: Assets at the beginning of year.

Source: Social Security Administration.

Assuming the historical 7 percent real yield on stocks, investing both Social Security's future annual cash surplus and the interest on its Treasury securities in the stock market could delay the projected exhaustion of the trust fund for about a decade, from 2029 to 2040. This potential delay would extend the trust fund's life well into the baby boomers' retirement years.²³ However, this delay results from a scenario representing an outer bound of how much the trust fund might invest in the stock market. Under the aggressive scenario, the trust fund would hold only enough Treasury securities to cover its contingency needs and would amass a sizable stock portfolio. Within 5 years, the trust fund would have about \$500 billion invested in the stock market. Stocks as a share of the

²³In 2040, the oldest baby boomers would be 94 years old and the youngest would be 76 years old.

trust fund's portfolio would peak in 2017 at more than 70 percent. While a 70 percent stock allocation is not necessarily unsound from an investment perspective, it would be a dramatic shift from investing solely in Treasury securities.

In nominal dollars, the trust fund's stock holdings under the aggressive scenario would peak in 2025 at about \$4 trillion.²⁴ According to Social Security's Trustees, the ratio of trust fund assets at the beginning of a year to that year's expected expenses is a useful measure of the trust fund's asset level. At their peak, the trust fund's stock holdings would represent about twice Social Security's expected expenses in 2025.²⁵ By 2034, the trust fund's assets would drop to about 150 percent of expected annual expenses. At that time, the trust fund would still have more than \$1.5 trillion—about one-third of its portfolio—in stocks. In 2036, the trust fund would liquidate all of its stocks, and its special Treasury securities would drop below a 100 percent contingency reserve level.

If only Social Security's cash surplus were invested, still assuming a 7 percent real rate of return, then the trust fund's projected exhaustion could be delayed by only 3 years, from 2029 to 2032. This scenario is somewhat more conservative; the trust fund would invest less than half as much as under the aggressive scenario. Within 5 years, the trust fund's stock investments would be about \$200 billion. Stocks as a share of its portfolio would peak at about 35 percent, which is conservative in comparison to the 60 percent held by state and local government pension plans as a whole. The trust fund's stock holdings, in nominal dollars, would peak in 2017 at approximately \$1.2 trillion, an amount roughly equivalent to that year's expected expenses. In 2024, the trust fund would liquidate all of its stocks, but its special Treasury securities would still represent more than 150 percent of the next year's expected expenses. In 2028, however, the trust fund's balance would drop below a 100 percent contingency reserve level.

Again, these estimates of the potential delay of the trust fund's exhaustion were based on a 7 percent average real return on stocks. The possible gain for the Social Security trust fund would be significantly less if future stock returns are lower than this historical average. As an illustration, if the future real return on stocks is 1 percentage point lower, the aggressive

²⁴Nominal asset levels are not comparable over time due to inflation, economic growth, and growth in the Social Security program.

²⁵Total assets, including special Treasury securities, would be approximately \$6.1 trillion—about three times expected expenses in 2025.

scenario would extend the trust fund's life by not 11 years, but only 6 years to 2035. Again assuming the real return on stocks is 1 percentage point lower, the possible delay under the cash surplus scenario would not be 3 years, but only 2 years to 2031. These results demonstrate the sensitivity of the rate of return assumption and are not intended to represent the worst or the most likely outcomes for the trust fund.

Stock Investing Entails Greater Risk

Investing in the stock market involves a clear trade-off. In exchange for the prospect of higher returns, the trust fund must accept greater risk. The trust fund would face greater uncertainty about its future returns and even the chance of losing money. Under the current policy, the trust fund receives a relatively low rate investing in Treasury securities but can readily liquidate its special Treasury holdings to pay benefits. In contrast, the trust fund would face uncertainty as to the amount or timing of future stock earnings and dividends. Moreover, just as the trust fund expects to liquidate its Treasury securities to pay benefits, it would have to sell its stocks to get cash to pay benefits. There is no certainty about what stock prices would be when the trust fund has to sell or whether it could recover amounts invested.

The primary risk that the trust fund would face is “market risk,” or the possibility of financial loss caused by adverse market movements. When the stock market drops, prices of stocks—regardless of their individual quality—fall and can stay depressed for a prolonged period of time. Fluctuations in overall market rates of interest can affect the stock market, and rising interest rates tend to depress stock prices. Market risk does not disappear over time. Although a long investment time horizon provides more time to recover from short-term fluctuations, an investor also would have more time to encounter a prolonged stock market downturn.

Depending on the composition of its stock portfolio, the trust fund could also be exposed to “concentration risk,” or the potential loss resulting from a heavy investment in a group of related companies or an industry susceptible to the same economic dynamics. Like any investor, the trust fund would face “default risk,” or the exposure to loss due to an individual company failing.

Diversification Reduces Default and Concentration Risk

According to portfolio theory, diversification reduces risk. Diversifying a stock portfolio across companies and industries reduces both default and concentration risk. Diversification also reduces the risk that the portfolio's

return will vary widely from the expected market return. Indexing, discussed in more detail in chapter 4, is one way to broadly diversify a stock portfolio and to match the approximate market return. Under the Advisory Council's Maintain Benefits approach, the trust fund would invest in stocks indexed to the broad stock market.

A diversified stock portfolio, however, does not protect against the risk of a general stock market downturn. An investor can shield against stock market risk by diversifying into other types of assets, such as corporate bonds. Also, one way to mitigate U.S. stock market risk is to diversify into international markets. To minimize exposure to short-term stock market fluctuations, an investor can hold less risky, albeit lower-yielding, assets to cover liquidity needs in the short run.

Social Security Trust Fund Would Be Vulnerable to Stock Market Risk

Higher stock returns could delay the trust fund's exhaustion, but, without other program changes, the trust fund inevitably will have to liquidate its stocks to pay benefits. Social Security's tax revenues are projected to be inadequate to cover annual benefits beginning in 2012. To pay benefits after that point, the trust fund will have to draw upon its investment earnings and eventually its assets to cover the shortfall. Riding out a general stock market downturn could be difficult for the Social Security trust fund as it faces a cash deficit and growing numbers of retirees. The trust fund might have to sell its stock holdings at a loss to raise cash to pay benefits. The more the trust fund is counting on stock sales to finance current benefits, the greater its vulnerability in the event of a general stock market downturn.

Conceivably, the trust fund could draw on its contingency reserve to avoid selling its stocks at a loss during a general market downturn. Once the trust fund depletes its special Treasury holdings though, it would be wholly subject to the vagaries of the stock market to get cash needed to pay benefits. Under such circumstances, a contingency reserve of 100 or even 150 percent of expected annual expenses may be inadequate for the trust fund to ride out a prolonged market downturn.

Again, if stock investing is implemented in isolation from other program changes, the trust fund would have to liquidate a sizable stock portfolio. The size of the trust fund's stock holdings as a share of the stock market and possible price effects are discussed further in chapter 4. In the simulations, the liquidation of the trust fund's stock portfolio would coincide with the baby boomers' retirement. A sustained stock market

downturn during this period not only would decrease the value of the trust fund's stock holdings but would affect retirees' personal savings as well.

A General Stock Market Downturn Could Coincide With a Social Security Tax Shortfall

The degree of risk facing the Social Security trust fund under a stock investment policy would depend, in part, on the relationship between stock returns and the trust fund's predominant revenue source—payroll taxes. Like stock returns, payroll tax revenues fluctuate with changes in overall economic conditions. If stock returns tend to be high when payroll tax revenues drop, the trust fund theoretically could reduce its overall risk by diversifying into stocks. If, however, stock returns move in tandem with payroll tax revenues and tend to fall during recessionary periods, the trust fund would face greater risk investing in stocks. A general stock market downturn coinciding with a payroll tax shortfall would exacerbate Social Security's need for cash to pay benefits. One economic study, done from the perspective of the government as a whole, concluded that stock returns and tax revenues are positively correlated.²⁶ The Advisory Council's technical panel reported in September 1995 that further research on the relationship between stock returns and payroll tax revenues is critical in evaluating whether stock investing is appropriate for the Social Security trust fund.

Who Bears the Investment Risk of the Social Security Trust Fund?

The Social Security trust fund could expect to earn a higher return by diversifying into stocks, but it is reasonable to anticipate that its return could be lower than the long-term average market return.²⁷ As our simulations illustrate, as long as its return on stocks is greater than the expected return on special Treasury securities, the trust fund would be able to pay benefits longer than is possible under the current investment policy. If, however, the real return on stocks over the next 20 or 30 years averages less than the expected return on Treasury securities or is negative, the trust fund would be exhausted sooner than in 2029, exacerbating Social Security's long-term financial imbalance.

The increased risks associated with the Social Security trust fund's stock investments would be borne collectively through the government and ultimately by taxpayers. According to recent research, the increased risk

²⁶Henning Bohn, "Tax Smoothing with Financial Instruments," *The American Economic Review*, Vol. 80, No. 5 (December 1990), pp. 1217-1230.

²⁷This discussion focuses on the real possibility that the trust fund would earn less than the 7 percent real return assumed by the Advisory Council and used in our simulations. Alternatively, it is theoretically possible that the trust fund could earn more.

of any shortfall if stock investing does not work as expected would be borne largely by future taxpayers.²⁸ Even if the trust fund earns more investing in stocks, the full gain may not accrue to future generations. The prospect of higher returns from stock investing, as shown in our simulations, could be used to delay benefit reductions or tax increases for current generations; or, there even could be pressure to cut Social Security taxes or raise benefits now.

Stock Investing Could Complement Other Social Security Reforms

Investing in the stock market is one option to increase the trust fund's revenues, but by itself, is not the solution to Social Security's financing problem. Stock investing would have a relatively modest impact on long-term solvency as long as Social Security remains largely a pay-as-you-go program. Restoring Social Security's long-term solvency will require some combination of benefit reductions and revenue increases.²⁹ Recent reform proposals, such as those the Advisory Council suggested, would increase the funds set aside to pay for future Social Security benefits. As part of a reform package that moves towards more advance funding, stock investing could have a more significant effect on Social Security's long-term financing.

Stock investing could complement traditional reforms in that higher stock returns could serve to reduce the size of benefit cuts and/or tax increases needed to restore Social Security's financial solvency. Increased funding generated by other program reforms could be invested in the stock market to earn a higher rate of return, further boosting Social Security revenues. Typically, reform proposals incorporating stock investments envision that the Social Security trust fund would hold its stock portfolio and mainly draw on its stock earnings. In this context, the trust fund would be less vulnerable to the risk inherent in liquidating stocks to pay promised benefits.

However, caution is warranted when counting on future stock returns in designing a Social Security reform package. If stocks do not deliver the expected returns, then Social Security could again face a financial shortfall, and the trust fund might have to quickly sell its stocks to pay

²⁸For research on intergenerational risk-sharing, see (1) Henning Bohn, "Social Security Reform and Financial Markets," Social Security Reform: Links to Saving, Investment, and Growth, Federal Reserve Bank of Boston Conference Series No. 41, June 1997, (2) Kent Smetters, "Investing the Social Security Trust Fund in Equities: An Option Pricing Approach," Congressional Budget Office Technical Paper 1997-1, August 1997, and (3) Peter A. Diamond, "Macroeconomic Aspects of Social Security Reform," Brookings Papers on Economic Activity, 2:1997.

²⁹Social Security: Restoring Long-Term Solvency Will Require Difficult Choices (GAO/T-HEHS-98-95, February 10, 1998).

benefits. In light of the variability of stock returns and the range of possible outcomes for the trust fund, investing in the stock market may not necessarily bolster public confidence in Social Security's finances. Even if the trust fund earns a solid return over the long haul, short-term fluctuations could heighten public concern about the stability of the program's financing.

Economic and Market Effects of Government Stock Ownership

The economic effects of government stock investing would likely be minimal because stock investing by itself does not increase national saving.¹ Without additional saving, government stock investing might improve the finances of the Social Security trust fund, but it would not increase the size of the economy because it would represent an asset shuffle between the government and private investors. This asset shuffle would likely be accompanied by changes in bond and stock prices that might, to some extent, undercut the government's expected gains on stock investments and increase the government's cost of borrowing. While government stock investments might be small in relation to the total stock market, the federal government could become the largest single investor within a few years.

Investing in a broad-based index to diversify the government's portfolio would reduce the risk of losses and administrative costs, but it has price effects of its own and its potential to prevent the use of nonfinancial objectives in stock selection is limited. Even if the government chooses an indexing strategy to select its stock investments, the issue of how to handle stock voting rights remains. The perception of political influence over the government's stock investments could undermine public confidence in the government's handling of Social Security's finances.

Economic Effects Would Likely Be Minimal

The economic effects of government stock investing would likely be minimal because stock investing by itself does not increase national saving.² Without additional national saving and investment, government stock investing might improve the financial position of the Social Security trust fund but would not increase the productive capacity of the economy. There would be no additional saving because, without other changes in federal spending or revenue, the Treasury would have to borrow more from the public to offset Social Security's stock purchases.³ On balance,

¹The economic effects of allowing the trust fund to invest in other non-Treasury assets, such as bank certificates of deposit or municipal bonds, would be similar to the effects that are described in this chapter for stock investing.

²See (1) Alan Greenspan, "Remarks at the Abraham Lincoln Award Ceremony of the Union League of Philadelphia," December 6, 1996, (2) Congressional Budget Office, *Implications of Revising Social Security's Investment Policies*, September 1994, (3) "Economic Challenges of an Aging Population," Chapter 3, *The Annual Report of the Council of Economic Advisers*, February 1997, and (4) Eric M. Engen and William G. Gale, "Effects of Social Security Reform on Private and National Saving," *Social Security Reform: Links to Saving, Investment, and Growth*, (Federal Reserve Bank of Boston, Conference Series No. 41, June 1997).

³This statement applies in a situation where the federal government has a unified budget deficit after investing in the stock market. See chapter 5 for a complete discussion of the budgetary effects of government stock investments and the implications for federal fiscal policy and government saving.

private investors would end up with fewer stocks and more government bonds, while the government would then hold some stocks and fewer of its own bonds. Any higher returns earned by the government would otherwise have accrued to other investors. So, while the public might gain by a higher return to the trust fund, people would have to accept a lower return on their privately held assets.

There may also be offsetting increases and decreases in income to investors, the Social Security trust fund, and the U.S. Treasury due to changes in interest rates and stock yields. According to analysts, the asset shuffling between the government and other investors could lead to higher stock prices and interest rates. The magnitude of price changes is uncertain and could be small. Any price effects might occur even before the government starts buying shares of stocks.⁴ In the stock market, the new government demand for stocks could tend to increase stock prices, inducing some private investors to sell stocks to the government. In the bond market, the Treasury likely would have to issue additional bonds to the public to substitute for Social Security's stock investments. This increase in Treasury borrowing from the public could tend to reduce bond prices or, equivalently, raise their rate of interest, which would raise federal interest costs.⁵ These changes would tend to redistribute income to a degree, but would not provide the public in general with any additional income.

The initial effects of price changes could be reduced as firms increase their equity financing and foreign buyers increase their purchases of U.S. securities. Looking to the future when members of the baby-boom generation reach retirement, analysts have expressed concern that at about the same time that the Social Security trust fund expects to liquidate its assets, pension funds, which have been a major source of national saving, are expected to become enormous net sellers of assets.⁶ Unexpected, sizable stock sales by pension funds and the government, such as those described in the investment scenarios discussed in chapter

⁴According to financial market analysts, stock markets are reasonably efficient in that stock prices would incorporate any relevant information about government stock investing as soon as it is publicly available. See Hendrik S. Houthakker and Peter J. Williamson, The Economics of Financial Markets (Oxford, New York: Oxford University Press, 1996).

⁵Higher interest rates would be paid on debt roll-overs and new borrowing. According to the Treasury, \$3 trillion of marketable debt is held by private investors, about one-third of which matures within 1 year and over half of which matures within 2 years.

⁶See (1) Sylvester J. Schieber and John B. Shoven, "The Consequences of Population Aging on Private Pension Fund Saving and Asset Markets," National Bureau of Economic Research Working Paper No. 4665, March 1994, and (2) Report of the 1994-1996 Advisory Council on Social Security, Volume II, pp. 56-58.

3, could tend to depress stock prices. It is difficult to predict precisely how stock prices and interest rates might be affected by the simultaneous sales of pension fund and Social Security's stock holdings more than a decade in the future.

The Government Could Become the Largest Stock Investor

Proponents of government stock investing and some analysts believe that investing some Social Security funds in equity securities would not have a major disruptive effect on the stock market.⁷ According to an analysis prepared for the Advisory Council, Social Security's stock portfolio under the Maintain Benefits plan would probably account for a relatively small share of the stock market. The Advisory Council's analysis estimated that the share would be less than 3.5 percent of the value of all stocks, assuming that the stock market would grow at the real stock yield of 7 percent.⁸ Starting with the stock market value of \$12.8 trillion at the end of the third quarter of 1997 and using the Advisory Council's assumption about market growth, our aggressive scenario would peak at about 3.5 percent of the stock market.

While the government's investments might be small in relation to the stock market, their size would probably be larger than the investments of other investors. Under our aggressive investment scenario, the federal government could become the largest single stock investor within several years. If the Social Security trust fund invests both its future cash surplus and interest in the stock market, assuming a 7 percent real rate of return, the federal government's stock portfolio would be estimated at more than \$80 billion by the end of 1998, more than \$170 billion by year-end 1999, and nearly \$275 billion by year-end 2000. As a point of comparison, table 4.1 shows the five largest pension funds and money managers. The largest money manager held \$522 billion at the end of 1996, and the largest pension fund held almost \$128 billion as of September 30, 1997.

⁷See (1) Robert M. Ball, Edith U. Fierst, Gloria T. Johnson, Thomas W. Jones, George Kourpias, and Gerald M. Shea, "Social Security for the 21st Century," in Report of the 1994-1996 Advisory Council on Social Security, Volume I, pp. 83-86, (2) P. Brett Hammond and Mark J. Warshawsky, "Investing Social Security Funds in Stocks," *Benefits Quarterly* (1997), and (3) Francis X. Cavanaugh, "The National Debt and Social Security," chapter 8, *The Truth About the National Debt* (Boston, Massachusetts: Harvard Business School Press, 1996).

⁸The Advisory Council's analysis started with a stock market value of \$8 trillion. P. Brett Hammond and Mark J. Warshawsky, in "Investing Social Security Funds in Stocks" (1997), compared government stock investments to the indexed equity portion of the stock market and concluded that there may be a need to strengthen the institutional capacity of this portion of the stock market before proceeding with a large Social Security investment program.

Table 4.1: Top Five Pension Funds and Money Managers Ranked by Total Assets

Dollars in billions	
Pension fund/money manager	Total assets
Top five pension funds/sponsors ^a	
California Public Employees	\$128
New York State Common	\$96
General Motors	\$91
California State Teachers	\$79
Florida State Board	\$72
Top five money managers ^b	
Fidelity Investments	\$522
Barclays Global Investors	\$386
Prudential Insurance	\$333
State Street Global	\$301
Bankers Trust	\$227

^aTotal assets at September 30, 1997.

^bTotal assets at December 31, 1996.

Source: Pensions & Investments, May 12, 1997, and January 26, 1998.

Benefits and Limitations of Stock Indexing

Proposals for government stock investing typically recommend investing in a broad-based stock index to diversify the government's stock portfolio, reducing the likelihood of concentrating investments in individual companies, and to reduce administrative costs. Purchasing stocks listed in an index is a form of passive investing that seeks to match the performance of the group of securities listed in a market benchmark, or index. Figure 4.1 defines several widely recognized stock indexes, such as the Dow Jones Industrial Average, S&P 500, and Wilshire 5000.

Figure 4.1: Examples of Widely Recognized Stock Indexes

Stock managers that pursue an indexing strategy must determine which stock index to replicate. Two widely recognized indexes are the Dow Jones Industrial Average (DJIA) and the Standard & Poor's 500 index (S&P 500). The stocks in these indexes are chosen by the staff of Dow Jones and Standard and Poor's, respectively, who occasionally add and delete individual companies or even entire industry groups from their indexes. The DJIA is constructed from 30 of the largest blue-chip industrial companies traded on the New York Stock Exchange. The S&P 500 represents a sample of 500 major U.S. and foreign corporations, such as General Motors, Philip Morris, and Royal Dutch Petroleum. The S&P 500 includes stocks from the two major national exchanges and the over-the-counter market, and represents about two-thirds of the U.S. stock market value. The Wilshire 5000 Index is a broader and more diversified index of all regularly traded U.S. common stocks, including the stocks in the S&P 500. Specific indexes also cover foreign stock markets, such as the Morgan Stanley Capital International Europe, Australia, and Far East (EAFE) index.

Indexing Would Reduce Some Risks

Indexing reduces risk or exposure to loss associated with an individual company failing and industry-specific downturns. The securities held in a broadly-based indexed portfolio would represent many different sectors of the economy and many individual companies. This diversification reduces the risk that any loss related to the performance of an individual security or group of securities would greatly affect the overall performance of the portfolio. In spite of the diversification benefits of indexing, stock investing would still be riskier than the government's current investment in special Treasury securities. Inclusion in a stock index does not represent any guarantee about a company's future performance, and indexing across the stock market will not reduce the government's risk of loss in the event of a general stock market downturn.

Indexing Would Reduce Administrative Costs

Index investing has grown more popular in recent years as empirical studies have shown that active stock managers generally underperform the stock market due to their high transaction costs. Active managers incur higher expenses in the process of doing research and trading the stocks of companies or industries that could be undervalued or offer good growth potential. In contrast, index managers generally do not research individual companies, and the securities in an index are not changed frequently, both of which result in lower trading costs. As a result, the

costs of managing an index of large company stocks, like the S&P 500, typically average about 10 basis points, while the active management equivalent may cost 40 to 50 basis points or more when all costs are included.⁹

Most of the cost of managing an S&P 500 index fund is attributable to the cost of maintaining thousands of shareholder accounts. With government stock investing there would be only one account to maintain; thus, it would incur negligible costs as a percentage of assets. For this reason, the Advisory Council assumed that annual administrative costs on the government's stock investments would be only one-half a basis point of total assets.¹⁰

Active managers may have an advantage over index managers in selecting small and medium corporations because data on these companies are less widely available, giving active managers with research capabilities more opportunity to find companies with growth potential. Also, index managers that try to match an index of small companies will incur larger transaction costs than a large company index because the stocks tend to be lower priced and less liquid.

Indexing Creates Price Effects of Its Own

Large company indexes, like the S&P 500, have become vulnerable to price disruptions as they have become more popular. Studies have shown that newly included companies in the S&P 500 tend to appreciate in price by about 5 percent simply because they become part of the index. This occurs because managers who run index funds linked to the S&P 500 have to purchase the stocks of the new companies in the index so that their performance will continue to replicate the S&P 500. Additions and deletions from certain indexes, like the Dow Jones Industrial Average and S&P 500, represent staff's judgments about an individual company's relative standing and do not necessarily reflect a change in its financial outlook.

Choosing a broader market index, like the Wilshire 5000, could reduce price distortions somewhat by diversifying across thousands of medium and small capitalization corporations. Investing in a broad-based market

⁹For example, the federal Thrift Savings Plan's (see figure 4.2) 1997 total expenses divided by the average monthly fund balance were 7 basis points for the government securities fund, 7 basis points for the stock index fund, and 8 basis points for the bond index fund.

¹⁰According to Joel Dickson's analysis prepared for the Advisory Council, fees charged for managing a broad stock index within the Maintain Benefits plan could be less than 1 basis point; moreover, if the investment managers are allowed to earn profits through securities lending activities, management expenses could be bid down to zero. Report of the 1994-1996 Advisory Council on Social Security, Volume II, p. 487.

index, however, could lead to active selection of stocks by the government and/or its stock managers. Managers that track the performance of a broad market index typically engage in sampling among thousands of small capitalization stocks to reduce transaction costs. For example, Vanguard's Wilshire 5000 index replicates the top 1,400 companies and takes a sample of the rest of the companies.

**Nonfinancial Objectives
Could Still Influence Stock
Selection Under Indexing**

Analysts and critics of government stock investing have expressed concern that political objectives would influence Social Security's investments.¹¹ While indexing greatly reduces this possibility, it does not eliminate it because the government, as the owner of the investments, would be able to drop or add shares of certain companies from a stock index to achieve other public goals. The Congress could start with a broad indexing strategy to reduce price distortions and the possibility of owning a significant percentage of the shares of any individual company. The Congress could then modify the index's composition to target investments that could offer competitive returns while providing other social benefits.¹² Additionally, a tailored index could automatically exclude stock investments in companies engaged in activities that are in conflict with government policies. For example, some state governments have been disinvesting from tobacco companies because they are pursuing a lawsuit against them. According to critics of government stock investing, pressures to exclude or include stocks for nonfinancial reasons might reduce the rate of return on the government's portfolio and hinder the overall economic efficiency of capital markets.

The issue of how to select stock investments also emerged when the federal employees' Thrift Savings Plan (TSP) was created (see figure 4.2). To eliminate political influence in TSP's stock investment decisions, the Congress restricted TSP investments to widely recognized broad-based stock indexes, prohibited TSP board members and employees from exercising stock voting rights, and subjected TSP board members and

¹¹A restriction to invest only in publicly listed stocks would automatically favor the group of large, publicly held corporations over thousands of small and medium businesses that do not have publicly held stock. See Lawrence J. White, "Investing the Assets of the Social Security Trust Funds in Equity Securities: An Analysis," Investment Company Institute Perspective, May 1996. Other critics include (1) Joan T. Bok, Ann L. Combs, Sylvester J. Schieber, Fidel A. Vargas, and Carolyn L. Weaver, "Restoring Security to Our Social Security Retirement Program," Report of the 1994-1996 Advisory Council on Social Security, Volume I, 1997, (2) Michael Leidy, "Investing U.S. Social Security Trust Fund Assets in Private Securities," IMF Working Paper 97-112, and (3) Gene Steuerle, "Investing Social Security Surpluses in the Stock Market," Tax Notes, April 3, 1995.

¹²See Theodore J. Angelis, "Investing Public Money in Private Markets: What Are the Right Questions," Framing the Social Security Debate: Values, Politics, and Economics, (National Academy of Social Insurance Conference, January 29-30, 1998).

employees to strict fiduciary rules. These fiduciary rules require board members and employees to invest the money and manage the funds solely for the benefit of the owners of the funds—the participating federal employees and beneficiaries. Board members and employees cannot consider nonfinancial objectives, such as job creation and environmental protection, in selecting stocks, and the portfolio composition is automatically determined by the stock index chosen. Breaching their fiduciary duty would expose board members and employees to civil and criminal liabilities.

Figure 4.2: Overview of the Federal Thrift Savings Plan

The Thrift Savings Plan (TSP) is a retirement savings and investment plan for federal employees authorized by the Congress in 1986. The TSP is administered by an independent agency, the Federal Retirement Thrift Investment Board, which is charged with operating it prudently and solely in the interest of TSP participants and their beneficiaries.

The Congress originally established three TSP investment funds: the Government Securities Investment Fund (G Fund), the Common Stock Index Investment Fund (C Fund), and the Fixed Income Investment Fund (F Fund). The G Fund, like Social Security, invests in short-term nonmarketable U.S. Treasury securities that earn the average of market rates of return on U.S. Treasury marketable securities with 4 or more years to maturity.

The C Fund is invested primarily in a commingled stock index fund that consists of common stocks of all the companies represented in the Standard & Poor's 500 (S&P 500) stock index. The F Fund is invested in a debt index fund that is designed to measure the performance of the major bond markets in the United States. TSP participants allocate their entire account balance among these three investment funds and can make interfund transfers. The Congress in 1996 approved two additional stock index funds for TSP, namely, an index of all companies--other than the S&P 500 companies--actively traded in the U.S. stock markets, and an index of major foreign corporations.

The TSP Board has contracted with Barclays Global Investors, N.A., to manage the C and F Fund assets. These assets are passively managed, which means that Barclays' managers seek to match the performance of the indexes by buying and holding the securities in each index. TSP assets are invested in funds in which the assets of public and corporate tax-exempt employee benefit plans are commingled. Barclays keeps separate accounting records for each plan. Because the C and F Fund assets are held in trust by Barclays, they are not assets of Barclays and cannot be used to meet the financial obligations of Barclays or any related companies.

Some analysts believe that TSP's fiduciary rules may not be applicable to government stock investing. The government owns the assets in the Social Security trust fund, and the Congress would be able to define the federal

government's "best interests."¹³ Other analysts believe that it might be possible to establish in law that investments be made solely for the financial benefit of Social Security participants and not for other economic, social, or political objectives. And, analysts believe that the Congress could establish an investment policy board, similar to TSP's board, subject to strict fiduciary rules when investing and managing the government's money.

Complexities of Stock Voting Would Remain Under Indexing

Even if the government chooses an indexing strategy to select its stock investments, the issue of how to handle stock voting rights remains. In general, because index investors cannot alter their portfolio composition to increase financial performance, they have a stronger incentive to actively exercise stock voting rights. Instead of selling stocks of an underperforming company, an index investor can choose to participate in corporate decisions that could enhance the company's performance. However, critics have expressed concern that the government's right to vote its sizable number of shares would allow it to influence corporate decisions.¹⁴

To blunt critics' concerns about potential federal meddling in corporate affairs, the government could choose not to exercise its stock voting rights. The Congress could, by statute, expressly prohibit the government from directly exercising voting rights associated with its ownership of securities or delegating these rights to stock managers. However, prohibiting the exercise of voting rights by the government or its stock managers would, in effect, create a situation favoring certain stockholders and corporate managers. If, for example, the government does not exercise its voting rights, other stock owners would have their own unencumbered voting rights increased and could conceivably act in ways that take advantage of the government's passivity. Also, no matter what stock voting policy is chosen when the government begins investing, policymakers could change the rules for stock voting rights in the future.

Despite these complexities, analysts and Maintain Benefits plan supporters believe that some features of TSP might be used to achieve neutrality of Social Security investments in matters of corporate policy.

¹³Securities and Exchange Commission economists suggested that appropriate safeguards to preserve the integrity of stock markets against politically motivated investments should be in place before the government invests in the stock market.

¹⁴Even a 2 or 3 percent block of shares could allow substantial influence over the policies of publicly traded companies. An activist shareholder can disproportionately magnify the power of small holdings in a company. See Angelis, pp. 26-27.

For example, voting on Social Security stock might be done, as for TSP, by investment managers according to their own guidelines. Since delegating the government's stock voting rights would shift the government's sizable voting rights to its selected managers, Maintain Benefits plan supporters have suggested spreading the government assets among many stock index managers.¹⁵

Investing in stocks or other assets outside the government would be a new concept for the Social Security trust fund. How the government chooses to handle the implementation issues associated with stock investing would affect the public's perception of such a new investment policy. If political factors appear to influence stock selection, stock voting, or the selection of stock managers, the public confidence in government's handling of Social Security's finances could be undermined.

¹⁵Spreading the government's stock portfolio among many managers might also help to address a concern raised by Securities and Exchange Commission economists that government stock investing could have an impact on competition and efficiency in the stock market because the federal government's stock managers would have enormous clout through their ability to place billions of dollars in orders to purchase and sell shares of stocks.

Effects of Government Stock Investments on the Federal Budget and Fiscal Policy

Under current budget scoring rules, in the short term stock investing would increase the reported unified deficit or decrease any reported surplus, because stock purchases would be treated as budget outlays. Any money used to purchase stocks would no longer be invested in Treasury securities, reducing the Treasury's available cash and making the resulting budget measure look more like the on-budget deficit that excludes Social Security's finances. Each dollar invested in stocks is \$1 less available to the Treasury to finance other government spending or reduce debt held by the public. If after accounting for this effect the federal government were in deficit, the Treasury would need to borrow from the public to replace cash used to buy stocks, unless offsetting spending or revenue actions were taken. Despite the change in the reported deficit/surplus, stock investing would not significantly change the government's fiscal position. Any additional borrowing from the public would be accompanied by less borrowing from Social Security, leaving the federal government's gross debt largely unchanged. And, more important, the government's impact on the economy would not change significantly because the effects on national saving of additional borrowing from the public would be offset by the purchase of stocks.

Whether the higher reported deficits or lower reported surpluses would lead to changes in fiscal policy is unclear. Since the change in the deficit/surplus would not alter the government's fiscal position, policymakers might choose to maintain the status quo in fiscal policy. In fact, recognizing that purchasing stocks means acquiring financial assets, they might consider changing budget scoring rules so that stock purchases would not count as budget outlays. If scoring rules were changed in this way, the reported deficit/surplus would not be significantly affected by stock investing. Alternatively, the higher reported deficits or lower reported surpluses could make more visible the underlying condition of the government's finances excluding the Social Security surplus and prompt policymakers to initiate compensating spending or revenue actions. If so, such fiscal actions could raise national saving. Or, if the net effect of stock investing were to reduce or eliminate an anticipated unified surplus, policymakers might be reluctant to devote surplus funds to additional spending or tax cuts. In this case, fiscal restraint might not promote higher saving, but it would avoid policy actions that could cause saving to decline.

Of course, if policymakers wanted to take actions to promote higher national saving, they could certainly do so directly by running annual surpluses in the unified budget and devoting the surplus funds to reducing

the level of outstanding debt held by the public. While sustaining surpluses would likely prove challenging, such a policy would strengthen the government's fiscal condition and enable it to better handle the baby boomers' retirement costs.

Impact of Stock Investing on Reported Deficits/Surpluses

Under current budget scoring rules, stock purchases would be treated as budget outlays. Therefore, in the short term, investing surplus Social Security funds in stocks would make unified budget deficits larger or unified budget surpluses smaller.¹ Each dollar invested in stocks is \$1 less available to the Treasury to finance other government spending or reduce debt held by the public. If, after accounting for the effects of stock investing, the government were in deficit, the Treasury would have to borrow more from the public, unless action were taken to reduce other spending or raise revenues. If, instead, after adjusting for the effects of stock investing, the government were running a budget surplus, the Treasury would have less cash available to reduce debt held by the public.

Depending on how much the Social Security trust fund invests in stocks, the impact on the budget deficit or surplus could be substantial. If Social Security's cash surplus were invested, the government's budgetary balance would be expected to decline by about \$30 billion to \$35 billion² annually for the next several years.³ For example, the \$8 billion surplus that the Congressional Budget Office (CBO) projects for fiscal year 1998⁴ would be eliminated, leaving a deficit of about \$25 billion in its place. If the trust fund were to also invest its annual interest, the change in the annual deficit or surplus could exceed \$100 billion a year. Under current CBO projections, investments of this magnitude would prevent the realization of any unified budget surpluses over the next decade.⁵ However, as discussed below, this deterioration in the reported deficit/surplus would not significantly affect the government's fiscal position, and, over the long term, the effect of stock investing on the reported deficit/surplus could largely be neutral.

¹Since, in the short term, stock investing would worsen the reported budgetary balance of the government, it could also change a unified surplus into a deficit depending on the size of the initial surplus and the amount that Social Security invests in stocks.

²GAO analysis of 1997 Trustees' Report, intermediate assumptions.

³This amount excludes the effects of the additional interest payments to the public from any increased borrowing.

⁴Congressional Budget Office, An Analysis of the President's Budgetary Proposals for Fiscal Year 1999, March 1998.

⁵Ibid.

**Higher Short-term Deficits
Under Stock Investing
Would Not Significantly
Affect National Saving**

Higher short-term deficits would mean more borrowing from the public and less borrowing from the Social Security trust fund.⁶ This shift from one type of debt to another would not significantly change the federal government's gross debt.⁷ However, the annual change in the gross debt is generally less noticeable than the annual change in borrowing from the public,⁸ which is reflected in the unified deficit. It is the unified deficit that is most commonly used by policymakers, analysts, and the media because it best reflects the current impact of federal borrowing on the financial markets and the economy. Therefore, changing Social Security's investment policy would increase the type of federal borrowing that is most closely monitored.

Although stock investing would increase federal debt held by the public, it would not by itself significantly affect national saving. Ordinarily, government deficits reduce national saving because government borrowing absorbs money that would otherwise have been available for private investment. Therefore, the current unified deficit measure closely approximates the economic effects of federal borrowing. However, under stock investing, although the reported deficit would increase, the government's draw on capital markets would not. While the additional federal borrowing from the public would absorb money from capital markets, the trust fund's stock investments would add funds to the markets. This new flow of money from the trust fund would offset the additional borrowing from the public, resulting in no significant net change in the annual funds available for private investment.⁹ (See figure 5.1.)

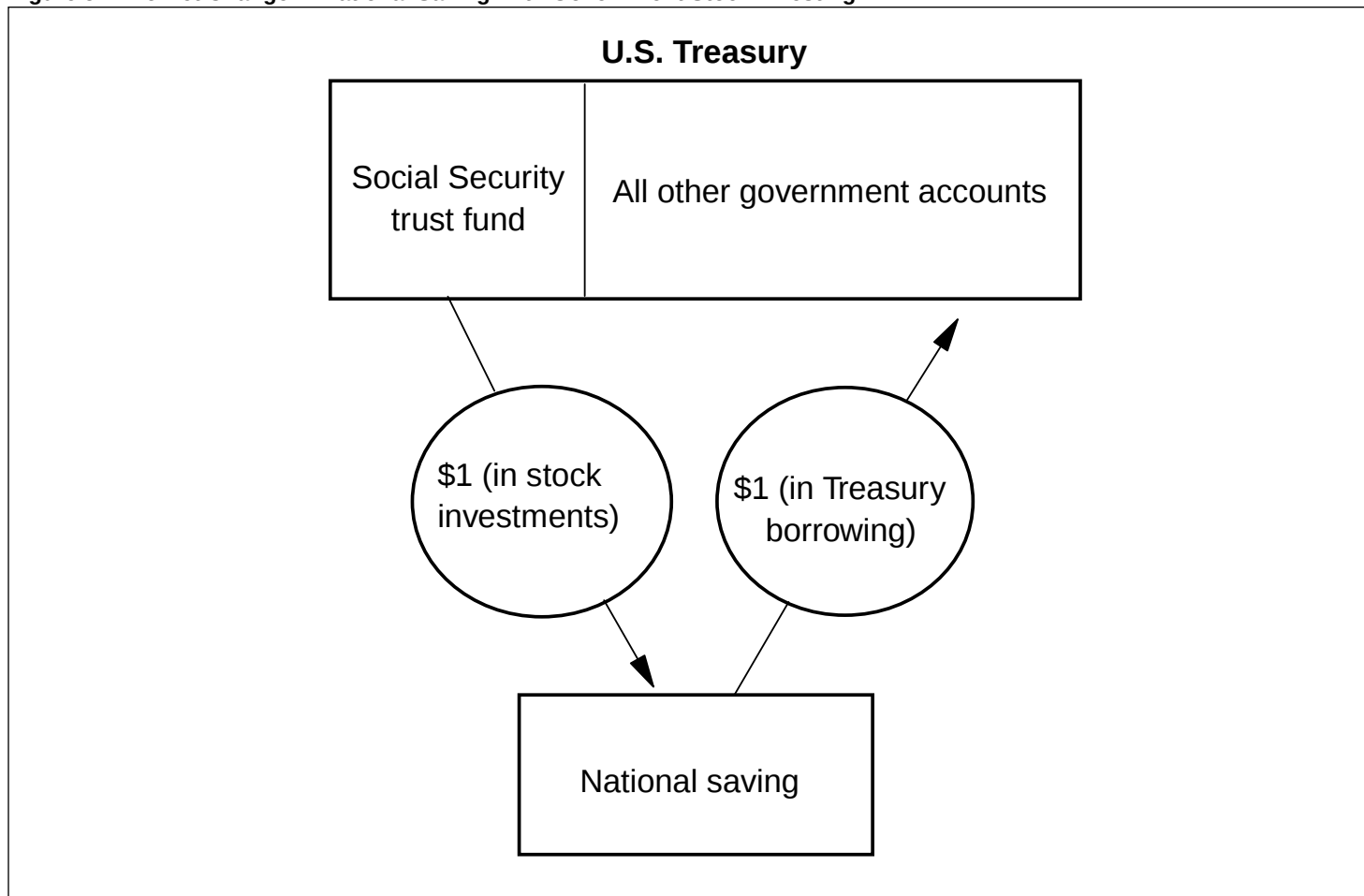
⁶This section discusses stock investing's impact in an environment of budget deficits. Although the effects of stock investing in a budget surplus environment would differ technically, they would be the same conceptually. For example, if after accounting for stock investing, the government were still in a surplus, it would potentially have cash available to reduce the level of debt held by the public. However, this result does not change the fact that the immediate effect of stock investing is to remove cash from the Treasury, which means that, absent stock investing, the government would have had more money available for such debt reduction.

⁷If the government borrowed more from the public in response to government stock investing, the federal government would pay more interest to the public while crediting less to the trust fund. This change in interest flows would probably have no significant effect on the gross debt.

⁸The debt limit provides an exception to this statement, because it applies not just to debt held by the public, but to nearly all of the gross debt. In this case, changes in the gross debt are more noticeable than changes in debt held by the public.

⁹As long as the government were in a deficit position, the Treasury would have to borrow more to pay the interest costs on additional borrowing from the public. This borrowing to pay interest would slightly reduce national saving.

Figure 5.1: No Net Change in National Saving With Government Stock Investing



Note: Figure excludes the effects of additional interest paid to the public.

Long-term Effects of Stock Investing on Reported Deficits/Surpluses Could Largely Be Neutral

While stock investing would have a negative effect on the budget deficit/surplus today, over time its impact on the unified budget could largely be neutral. As with any budget outlay, the purchase of a stock would mean money flowing out of the government and, thus, the reported budget deficit/surplus would deteriorate. However, the sale of a stock would mean money flowing back into the government. So, when Social Security begins running cash deficits in the future, it could sell stocks to finance benefits, rather than drawing on the Treasury. This approach would result in smaller future budget deficits or larger future budget

surpluses than under current policy. This longer-term improvement could offset the near-term deterioration in the deficit/surplus.

Because it is impossible to predict the precise effects of stock investing, it is important to qualify any discussion of its fiscal impact. For example, over the long term, stock investing could have at least a slight positive effect on the federal government's finances if the earnings on stock investments exceed any potential increase in federal borrowing costs.¹⁰ If the federal government borrows from the public to replace cash used to purchase stocks, it could put upward pressure on interest rates. Even a small rise in interest rates could significantly increase federal interest costs because of the size and structure of the outstanding debt held by the public. About \$1 trillion of the federal government's outstanding debt securities are rolled over every year. Higher interest rates would affect these roll-overs, as well as the additional debt issued to cover the stock purchases.¹¹

If the federal government's stock earnings did exceed any increased borrowing costs, the government would benefit from an improved budgetary position. However, any such gain to the government would not increase national income. If the federal government were investing in stocks without taking other actions designed to raise national saving, it would be capturing a portion of stock returns that would otherwise have accrued to private investors, who would now own fewer stocks and more Treasury securities. In short, simply altering the ownership of stocks and bonds between the public and private sectors would not boost long-term economic growth.

Indirect Impact of Government Stock Investing on Fiscal Policy Is Unclear

Whether the short-term increase in reported budget deficits or decline in reported budget surpluses would lead to changes in fiscal policy is unclear. Since stock investing would not substantially change the impact of federal finances on the economy, policymakers might choose to maintain a status quo fiscal policy. Changing budget scoring rules to exclude stock purchases from budget outlays would be consistent with this approach because it would result in no significant change in the

¹⁰Stock investing would have several additional effects on federal spending and revenue. These effects would be relatively small and could have either a positive or negative net impact on the budget deficit/surplus. For example, the investment earnings on the government's stock portfolio would be exempt from taxation. However, the additional interest income earned by federal bondholders would be subject to taxation.

¹¹Higher interest rates would also affect any new issues of the nonmarketable Treasury securities held by the Social Security trust fund or any old issues that are rolled over.

reported deficit/surplus. If budget scoring were not altered, however, stock investing would more clearly reveal the budget imbalance that exists when Social Security's temporary surplus is excluded. The greater visibility of this imbalance could lead to further actions to restrain federal spending or increase revenues, which could boost national saving. Of course, stock investing would be a very indirect way of prompting additional actions to raise national saving. If policymakers choose to enact additional fiscal restraint, they can do so directly without any changes in the way the unified budget deficit/surplus is presented.

Stock Investing Could Prompt Change in Budget Scoring Rules

While stock investing could lead to additional federal borrowing from the public, the additional borrowing would not substantially reduce the pool of funds available for private investment. Any increased borrowing would be largely offset by the government's stock purchases. Since stock investing does not significantly alter the impact of the government's finances on the economy, policymakers might decide to maintain current fiscal policy as is. In fact, they could choose to change budget scoring rules to explicitly recognize the distinct nature of stock purchases. Since the government acquires a financial asset when it buys stock, one could argue that the purchase should not be treated as a budget outlay. However, such a determination would conflict with the way other asset purchases are treated in the budget—they are generally scored as outlays.¹² And, in addition, creating different budget scoring rules for stocks would also raise some complicated technical issues, such as how to recognize changes in their market values. To some extent, new budgetary scoring procedures would have to be developed for handling stocks. If, despite these considerations, stock purchases were not treated as outlays, stock investing would have no major impact on the reported budget deficit or surplus.¹³ (For additional details on stock investing and budgetary accounting, see appendix II).

¹²Major exceptions are debt transactions (for example, when Social Security invests in special Treasury securities) and cases in which the government purchases assets that are considered equivalent to cash.

¹³If stock purchases were not treated as outlays, stock investing could still result in minor changes in the budget deficit/surplus. For example, if stock investing resulted in additional borrowing from the public, the associated interest costs would increase budget outlays and, hence, the deficit.

Financial Status of Government Excluding Social Security Surplus Would Be More Visible Under Stock Investing

If current budget scoring rules were maintained, stock investing would make more visible the underlying condition of the government's finances excluding Social Security's temporary surplus. Currently, in the unified budget presentation, the Social Security surplus masks the financial status of the rest of the government. By helping to finance current spending, Social Security's cash surpluses may result in the government spending more or taxing less than it would if these surpluses were not available to finance other programs.¹⁴ Stock investing, by removing surplus Social Security funds from the Treasury would reduce or eliminate the masking effect, making the unified budget measure look more like the on-budget measure that appears in budget documents but is not widely used. If Social Security's cash surplus plus interest were invested in stocks, the "new" unified budget measure would virtually match the on-budget measure.¹⁵

The masking that occurs under current policy is an important budgetary issue because of its implications for the future. Social Security's surpluses are temporary; when they disappear, there will be relatively fewer funds available to support other government activities. At that time, the federal government would need to find an alternative source of funds if it wanted to maintain the same amount of spending. As the trust fund slips into deficit and begins drawing on the Treasury in increasing annual amounts, the challenge of financing the rest of the budget would intensify. (See figure 1.1.) The fiscal choices needed to redeem the trust fund's Treasury securities could be especially difficult because the need to make such trade-offs may not be well understood by the public. Current fiscal policy may be creating the misleading impression that today's spending levels and commitments can be maintained indefinitely without additional revenues or borrowing from the public. More clearly acknowledging the government's budgetary status excluding Social Security's surplus, rather than deferring that recognition until the trust fund begins drawing on the Treasury, could dispel this impression.

Our concern about the impact of Social Security's temporary surplus on the unified budget does not imply that the program's revenues and

¹⁴This masking effect could have important implications for any Social Security reforms. Reforms that increase the size of the Social Security surplus might not necessarily improve the long-term picture for the budget as a whole. A larger Social Security surplus might serve to intensify the masking of the financial condition of the rest of the government. If policymakers responded to a larger trust fund surplus by exercising less restraint in the rest of the budget, the improvement in Social Security's finances would not contribute to increased national saving. Instead, it would only allow the trust fund to build up more claims on the Treasury without enhancing the nation's ability to meet these future claims.

¹⁵In addition to Social Security, the on-budget deficit excludes the operations of the U.S. Postal Service. However, this amount is very small in comparison to Social Security.

expenditures should be excluded from the budget. The unified budget, which includes Social Security, is the way to measure the current impact of the federal government's finances on the nation's economy. However, in considering the long-range implications of government policies, the temporary nature of the Social Security surplus suggests that an alternative presentation would more clearly reveal the underlying nature of federal commitments. Such a presentation would help today's decisionmakers better understand the long-term budgetary condition and underlying commitments of the federal government.

**Higher Reported Deficits
or Lower Reported
Surpluses Could Influence
Fiscal Policy**

Even though stock investing does not alter the government's fiscal position, it could indirectly lead to changes in fiscal policy by focusing more attention on the budget imbalance that exists when Social Security's surplus is excluded. Policymakers could react to a higher unified deficit by cutting spending and/or raising taxes. Such fiscal restraint could contribute to a higher level of national saving. Or, if the net effect of stock investing were to reduce or eliminate an anticipated budget surplus, policymakers might be reluctant to devote surplus funds to additional spending or tax cuts. In this case, fiscal restraint might not promote higher saving, but it would avoid policy actions that could cause saving to decline.

Though stock investing could help highlight the budget shortfall that exists when Social Security's surplus is excluded, it represents a circuitous way of essentially duplicating a measure that already exists: the on-budget deficit. If policymakers wanted to take actions to boost national saving, they could certainly do so directly by running annual surpluses in the unified budget and devoting the surplus funds to reducing the level of outstanding debt held by the public. If the government ran a unified budget surplus equal to Social Security's cash surplus, it would mean that the Treasury would no longer need to rely on Social Security revenues to finance federal spending on other activities. While attaining and sustaining such surpluses would likely prove challenging, such a policy would strengthen the fiscal condition of the government and, by promoting higher saving, better position the economy to handle the baby boomers' retirement costs.

Assumptions Used in Estimating How Higher Returns Affect the Social Security Trust Fund

At our request, the Social Security Administration's (SSA) Office of the Chief Actuary simulated the potential effect of higher returns of stock investing on the Social Security trust fund. Simulations are useful for comparing alternative investment policies within a common framework but should not be interpreted as forecasts given the range of uncertainty about the amount and timing of any Social Security stock investments as well as about future stock returns and potential economic changes in response to government stock investing. While this report discusses potential investment alternatives, it does not suggest any particular course of action, since the choice of the most appropriate investment policy is a decision to be made by the Congress and the President.

Stock Investing in Isolation From Other Program Changes

We examined the potential effect of stock investing in isolation from other changes in the Social Security program. At our request, the SSA actuaries used the Social Security Trustees' 1997 intermediate assumptions about future tax revenues, benefit expenditures, demographic trends, and economic growth. Under the Trustees' 1997 intermediate estimate, the trust fund's balance of special Treasury securities at the beginning of 1998 was expected to be equivalent to about 165 percent of estimated expenditures in that year. Given that a level of 100 to 150 percent is suggested as a prudent contingency reserve, we assumed that the Social Security trust fund could begin investing in the stock market in 1998. The trust fund, assuming no program changes, expects to collect more cash from Social Security tax revenues than is needed to pay benefits each year until 2012. At that point, Social Security's tax revenue will be insufficient to pay benefits each year, and the trust fund will finance the program's cash deficit by drawing on its investment income and eventually depleting its assets.

We assumed that the trust fund would continue to hold a contingency reserve equal to at least 100 percent of the next year's expected expenditures. Moreover, we assumed that the contingency reserve would continue to be in the form of special Treasury securities, given that stock prices are highly variable in the short term. Under the Trustees' 1997 intermediate estimate, the trust fund's balance of special Treasury securities at the beginning of 1998 was expected to be more than \$647 billion. This balance would be adequate as a contingency reserve of at least 100 percent of annual expenditures for about 10 years. However, as the baby boomers begin collecting benefits, Social Security's annual expenditures will increase, and the trust fund will need an increasingly larger amount of Treasury securities for its contingency reserve. At our

request, the SSA actuaries assumed that the trust fund's minimum reserve of special Treasury securities would equal 100 percent of the combined annual costs of Social Security's two trust fund accounts: Old-Age and Survivors' Insurance (OASI) and Disability Insurance (DI). Combining these accounts results in a shorter stock investment period than if the two accounts were treated separately in determining the 100 percent reserve. On a separate basis, the OASI trust fund account could hold more stocks for a longer period, but the DI trust fund account is expected to be exhausted in 2015 under the Trustees' 1997 intermediate assumptions. In the past, the DI trust fund account has received additional financing through a reallocation of a portion of Social Security taxes from the OASI trust fund account.

Stock Return Assumptions

The potential gain from stock investing would depend on what future stock returns are. To illustrate the potential effect of higher returns on the Social Security trust fund, we used the 7 percent real stock yield assumed by the Advisory Council in estimating future stock performance. To illustrate how changing the stock return assumption affects the estimated delay in the trust fund's exhaustion, we also tested a real stock yield, which is 1 percentage point less than the historical average. This alternative return is intended only to demonstrate that stock investment simulations are sensitive to the rate of return assumed and does not represent the lower bound of a confidence interval of expected returns.

The 7 percent long-term historical average return on stocks is 4.3 percentage points more than the ultimate 2.7 percent yield on special Treasury securities under the Trustees' 1997 intermediate assumptions.¹ The real stock yield of 6 percent is 3.3 percentage points greater than the expected yield on special Treasury securities. We also used the Advisory Council's assumption that the trust fund's annual administrative costs would be 0.5 basis points,² which reduces the spread between the real yields on stocks and Treasury securities by 0.005.³ Based on the Trustees' 1997 intermediate assumption for inflation, the ultimate nominal yield on special Treasury securities would be 6.29 percent. Thus, the ultimate

¹The 7 percent real stock yield was 4.7 percentage points greater than the 2.3 percent yield expected under the Trustees' 1995 assumptions, which were used in the Advisory Council's analysis.

²In its analysis, the Advisory Council assumed that the annual administrative costs would apply to the trust fund's entire asset balance and not just to its stock holdings.

³The spread over the real yields on Treasury securities would be 4.295 percent under the 7 percent real stock return assumption and 3.295 percent under the 6 percent assumption. The spread between the nominal yields is slightly higher.

nominal yields on stocks would be 10.74 percent (assuming a 7 percent real yield) and 9.70 percent (assuming a 6 percent real yield). Under the Trustees' intermediate assumptions, the yields on special Treasury securities are expected to be higher than the ultimate rate over the next decade or so. Likewise, the nominal stock yields over these years are higher than the ultimate stock yield assumptions, as shown in table I.1.

Table I.1: Nominal Yields on Special Treasury Securities and on Stocks Assuming 7 Percent and 6 Percent Real Yields From 1998 Through 2011

Percentages				
Year	Special Treasury yield	Inflation	7 percent real stock yield	6 percent real stock yield
1998	7.41	3.2	11.84	10.81
1999	7.30	3.2	11.74	10.70
2000	7.23	3.4	11.67	10.64
2001	7.15	3.5	11.60	10.56
2002	7.09	3.5	11.54	10.50
2003	7.04	3.5	11.49	10.45
2004	6.98	3.5	11.42	10.39
2005	6.91	3.5	11.36	10.33
2006	6.85	3.5	11.29	10.26
2007	6.73	3.5	11.18	10.14
2008	6.62	3.5	11.07	10.03
2009	6.51	3.5	10.96	9.92
2010	6.40	3.5	10.85	9.81
2011	6.29	3.5	10.74	9.70

Source: SSA based on 1997 Trustees' intermediate assumptions about yields on special Treasury securities and inflation.

Stock Investment Scenarios

The potential gain from stock investing also would depend on how much the Social Security trust fund invests in the stock market. We developed an aggressive scenario investing all future amounts beyond a 100 percent contingency reserve level and a more conservative scenario investing only Social Security's cash surplus. Under the aggressive scenario, the trust fund would hold its balance of special Treasury securities constant as of the beginning of 1998. From 1998 until 2008, all of Social Security's cash surplus and the interest on its special Treasury securities would be invested in the stock market. Beginning in 2008, the trust fund would need to begin investing more in Treasury securities to maintain a 100 percent reserve level. Under the cash surplus scenario, the trust fund would invest in the stock market until 2012 and then it would begin drawing on its stock

Appendix I
Assumptions Used in Estimating How
Higher Returns Affect the Social Security
Trust Fund

earnings and sales to finance Social Security’s cash deficit. In both scenarios, stock earnings are reinvested in the market unless the trust fund needs cash to pay benefits or to invest in Treasury securities to maintain its contingency reserve.

Table I.2 shows, under current law and the two stock investment scenarios, the years when (1) the trust fund would be exhausted, (2) its asset level would fall below 100 percent of expected annual expenditures, and (3) its asset level would fall below 150 percent. These simulation results illustrate some outcomes associated with two alternative investment policies. These results should not be interpreted as forecasts and do not represent the full range of possible outcomes for the Social Security trust fund.

Table I.2: Key Dates Under Current Law and Two Stock Investment Scenarios

	Trust fund exhausted	Assets less than 100 percent of annual outgo	Assets less than 150 percent of annual outgo
Current law	2029	2025	2022
Aggressive scenario			
7 percent real yield	2040	2036	2034
6 percent real yield	2035	2032	2029
Cash surplus scenario			
7 percent real yield	2032	2028	2026
6 percent real yield	2031	2027	2025

Source: SSA, Office of the Chief Actuary.

In our opinion, the aggressive scenario represents the outer limit of how much the Social Security trust fund might invest in the stock market. Hypothetically, the trust fund could redeem its existing balance of Treasury securities to invest more in the stock market now. Or the trust fund could hold an amount of Treasury securities less than 100 percent of expected annual expenditures. We do not believe either of these scenarios would be sound from an investment perspective. Under the aggressive scenario, the trust fund’s stock holdings would peak at more than 70 percent of its portfolio. A scenario investing even more in stocks would increase the trust fund’s exposure to the risk of loss in the event of a general stock market downturn. Moreover, the trust fund would not hold enough Treasury securities to maintain an adequate reserve to cover unforeseen liquidity needs.

There are also other reasons why we question whether it would be feasible to invest more than under the aggressive scenario. For one, under the Trustees' 1997 intermediate estimates, the trust fund's special Treasury securities at the beginning of 1998 were expected to be approximately \$647 billion, which is equivalent to about 5 percent of U.S. stock holdings, valued at \$12.8 trillion as of the third quarter of 1997. Attempting to rapidly shift the trust fund's existing balance into the stock market would magnify any upward pressure on stock prices resulting in the short term from government stock investing. Finally, the aggressive scenario presents budgetary challenges: Social Security's cash surplus would not be available to finance other government activities, and the Treasury would have to raise additional cash to finance interest payments to the trust fund. The trust fund reinvesting its existing balance in the stock market would create another budgetary challenge—the Treasury would have to repay money previously borrowed from the trust fund.

The cash surplus scenario is somewhat conservative. The trust fund's stock holdings would peak at about 35 percent of its portfolio, which is conservative in comparison to the 60 percent held by state and local pension funds as a whole. Also, under the cash surplus scenario we specified, the trust fund would sell its stocks first to finance Social Security's cash deficit even before tapping the interest on its special Treasury securities. It is possible to construct a more conservative investment scenario, for example, by limiting stock holdings to a lower percentage of the trust fund's portfolio. Alternatively, it is possible to construct a less conservative cash surplus scenario. The trust fund could draw on its special Treasury securities in excess of the contingency reserve level instead of selling its higher-yielding stocks first. Under this less conservative scenario, investing Social Security's cash surplus in the stock market, still assuming a 7 percent real yield, would delay the trust fund's exhaustion until 2034. This result is 5 years longer than expected under current law and 2 years longer than is possible under the more conservative scenario.

Government Stock Investing and Federal Budgetary Accounting

While the costs of government stock investing would show up immediately under the current budgetary accounting system, the potential benefits would not appear for several years or more. This discontinuity between costs and benefits would make it difficult for policymakers and the public to evaluate a stock investment policy. Changing the budgetary accounting rules for stock purchases to exclude them from government outlays could alleviate the confusing budget signals that would arise under current scoring methods. However, changing the scoring treatment would also eliminate the clearer view of the government's finances excluding the Social Security surplus that would otherwise result under stock investing. Alternatively, supplemental information on the stock portfolio could be used to track changes in its value.

Stock Purchases Would Increase Budget Outlays

The federal budget is largely cash-based. Receipts are recorded when received and outlays are recorded when paid, without regard to the period in which taxes and fees were assessed or the costs incurred. According to budget experts that we interviewed, the purchase of stocks, like any other purchase, would be treated as an expenditure or cash outlay. In this way, stock purchases increase federal spending and, therefore, raise the reported unified budget deficit or lower the reported surplus.

While budget analysts consider a stock purchase to be an expenditure, the issue is less clear when viewed from the perspective of Social Security. The trust fund is not spending more money; it is simply investing in a different asset. Why would choosing a different asset increase federal spending? The answer lies in the distinct nature of each type of asset transaction. Purchases are generally treated as budget outlays. However, the trust fund's purchase of a Treasury security is a debt transaction. Such transactions do not constitute outlays or receipts; if they did, the budget would approximately be balanced by definition. In addition to debt transactions, another exception to the general treatment of purchases as outlays applies to assets that are equivalent to cash.¹ Stock purchases do not fall under either of these exceptions: they are not debt transactions and budget analysts do not consider them to be equivalent to cash because they are not as liquid and their value fluctuates.

Any income from dividends on stocks or sales of stock would be counted as offsetting receipts, i.e., it would reduce total spending. However, in the case of dividends, any reinvestment would be treated as additional spending. So, on balance, a policy of reinvesting dividends would have no

¹For example, gold is considered a cash-equivalent asset.

immediate impact on the budget deficit or surplus as the effects on spending would offset one another.

Potential Gain From Stock Investing Would Not Be Visible in the Short Term

In addition to its cash-based nature, federal budgeting has a relatively short-term focus—generally 1 to 5 years. Together, these factors would tend to obscure the potential benefit of stock investing. Most of the stock purchases would occur over the next 10 to 15 years, while any revenue gains would likely be concentrated in later years. Thus, any long-term benefits would not be immediately visible. The budget would not reflect any change in value of the stock portfolio until the trust fund sells its stocks. In the short-term, then, stock investing might not look particularly attractive—cash would go out to purchase stocks, but little or no new cash would come in to the Treasury.

The long-term signals sent by stock investing could also be confusing to policymakers and the public. When the trust fund sells stocks in the future to help pay benefits, the cash proceeds would appear in the budget as revenue, but it would not be clear how much the stocks had gained or lost in value.

Budgetary accounting rules could be changed to avoid these confusing signals, but such a change could carry costs as well as benefits. For example, if government stock investing were scored under different rules than other types of federal spending, stock purchases could be excluded from government outlays. As noted previously, the purchase of stock does not have the same effect on the economy as other types of federal spending. Different treatment in the budget would underscore this distinction. However, creating different rules for stock purchases would also undermine the possible incentive for addressing the deficit that exists when Social Security's surplus is excluded from the government's finances. If stock purchases were not treated as outlays, Social Security's surpluses would continue to obscure the size of this deficit. Counting stock purchases as outlays, as current scoring requires, would make this deficit more visible.

Instead of changing budgetary accounting procedures to deal with stock purchases, it might be preferable to provide additional information on a government stock portfolio as supplementary budget data. The Social Security Trustees already issue annual reports that include information on trust fund assets. These reports could be expanded to include an annual statement of the government's stock portfolio that would contain

Appendix II
Government Stock Investing and Federal
Budgetary Accounting

information such as the amounts invested, the nature of the investments, and the change in market value of the holdings. In addition, similar information could be included in the budget documents themselves.

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