
Special Report / Viewpoint

The Impact of Pension Funding On State Government Finances

by J. Fred Giertz

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This report and the other special report this week were prepared for the conference "State Fiscal Crises: Causes, Consequences, Solutions," held by the Tax Policy Center, a joint venture of the Urban Institute and the Brookings Institution, and by Northwestern University's Kellogg School of Management and Institute for Policy Research; the conference was held in Washington on April 3. (For coverage of the conference, see State Tax Notes, Apr. 14, 2003, p. 150; 2003 STT 66-1; or Doc 2003-8738 (2 original pages).)

Reports from the fiscal crisis conference that appear here may also be found at <http://www.taxpolicycenter.org>.

Introduction

Capital gains have had a dramatic impact on state tax revenues in the last decade. However, the indirect effects of capital gains on state finances through state pension fund growth and decline have had an even greater, but overlooked, effect on the long-term fiscal health of states. These impacts will be detailed here.

The business cycle from the end of the 1990 recession through the recession that began in March 2001 had an unprecedented impact on state government finances in the United States in both the expansion and contraction phases. Tax revenues expanded and then contracted more dramatically than would have been predicted by traditional indicators, such as changes in income and unemployment. This culminated in the precipitous decline in state government revenues in fiscal 2002. (See Figure 1, next page.)

While the recession of 2001 was one of the mildest on record, it had a disproportionate impact on state government tax revenues. Even though GDP growth was positive for the period, tax revenues declined by 5 percent or more in many states in fiscal 2002.

The impact of stock market dynamics on capital gains, stock options, and bonuses had an unprecedented impact on tax revenues the last decade. This was largely through the income tax, but also spilled over into the sales tax through expanded consumer spending generated by the wealth effect. Figure 2

(next page) shows the magnitude of realized capital gains. Note that during the late 1990s, they reached more than twice the historical average as a percentage of GDP. The steep decline after the end of the stock market bubble in 2000 only reduced capital gains to slightly less than the historical average.

It is not surprising that the impact of the stock market should have an even more important effect on state retirement systems. Figure 3 (p. 509) shows that investment returns are the most important contributor to state pension funds, dominating employee and employer contributions.¹ In fact, employee and employer contributions are largely offset by pension distributions to retirees. Figure 4 (p. 509) shows the importance and volatility of investment returns, which are larger than state income tax receipts in some years and negative the last two years.

A Review of State Retirement Systems

Pension funding issues have an important, but often hidden, impact on the finances of state governments.² Traditionally, most state pension systems are based on the defined benefit (DB) principle.³ Under a DB system, workers are entitled to a retirement payment based on their years of service and average income without regard to the actual resources available in the investment portfolios of the pension systems when they retire. In most states, contributions to retirement funds are made by employers and employees each year. However, there is no requirement in the short run that these contributions be sufficient to fully fund the systems.

Regardless of contribution levels, state governments are generally the funders of last resort, which ensure that pension payments are actually made to retirees. If pension systems are underfunded, governments must address this problem sooner or later through additional contributions to the systems. If systems are overfunded, government resources can be redirected from pensions to other government programs.

This is similar to DB plans in the private sector, in which excess returns contribute directly to firm profitability. During the late 1990s, pension system performance was a major contributor to the bottom line of many firms. Now, pension fund

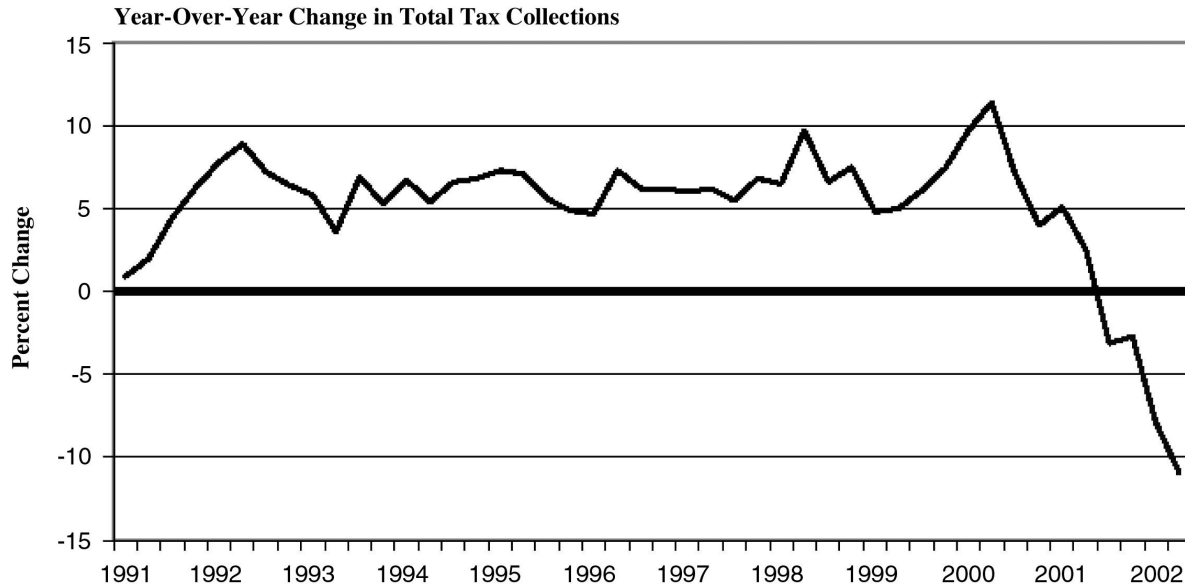
(Text continued on p. 509.)

¹ Investment returns comprise more than capital gains, such as interest and dividends.

² Most of these points apply with equal force to local pension systems and state systems.

³ For a review of state and local pension systems, see Mitchell, et al. and Steffen.

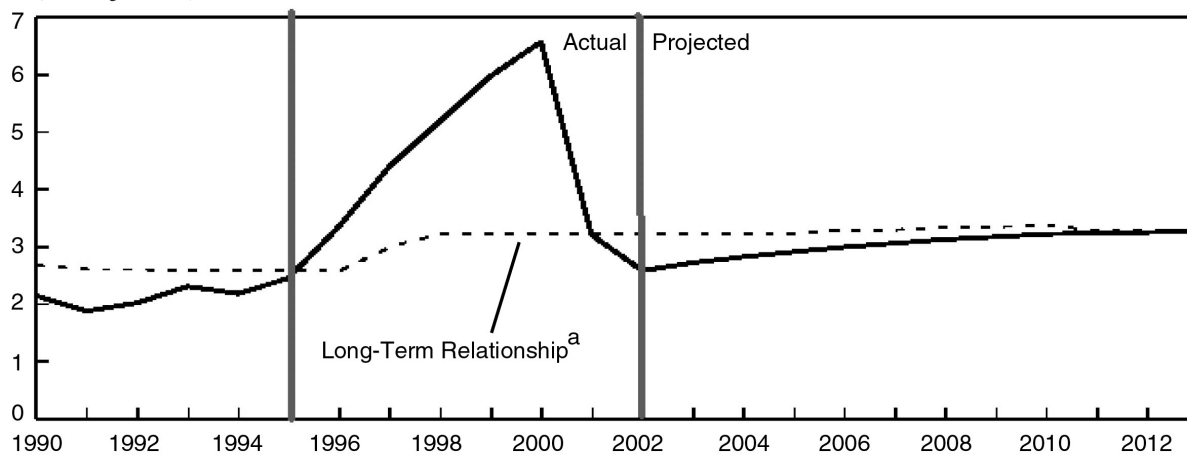
Figure 1
State Tax Collections



Source: The Fiscal Studies Program of the Nelson A. Rockefeller Institute of Government.

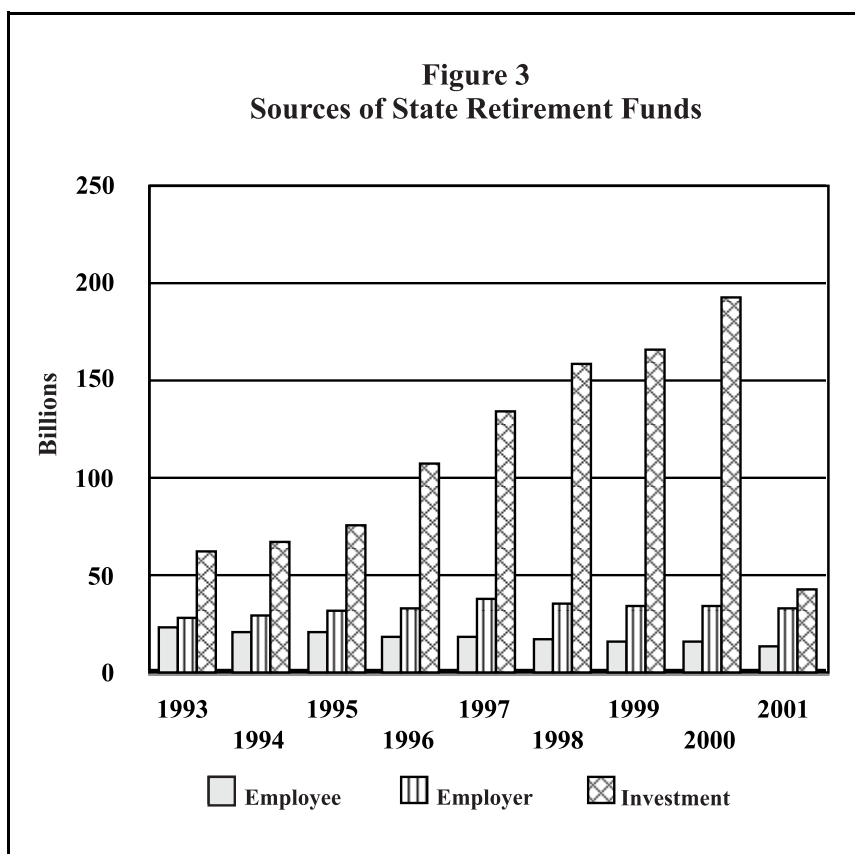
Figure 2
Realized Capital Gains

Capital Gains Realizations as a Share of GDP, Calendar Years 1990–2013
(Percentage of GDP)



Source: Congressional Budget Office

a. The long-term relationship of capital gains realizations to GDP is measured as the average of ratio of gains to GDP over the 1954–2001 period, adjusted for differences between each year's tax rate on capital gains and the average rate over the period. A lower tax rate on capital gains corresponds to a higher long-term relationship of gains to GDP.



(Text continued from p. 507.)

losses are dragging down profits. For example, GE announced in March a \$5.25 billion pension fund loss in 2002 that will eventually affect earnings.⁴

The relationship of state public pension fund performance on state finances is extremely important, but even more opaque than in the private sector. States have the ability to determine the time path of their pension fund contributions. The underfunding of pensions is an implicit borrowing against future state revenues. In any case, the strong performance of pension fund assets reduces the future burden on taxpayers while declines have the opposite impact.

In recent years, many private pension systems have moved from DB plans to defined contribution (DC) arrangements. DC plans require a definite contribution for each employee, usually from both the employer and employee, that will eventually be used to support the worker's retirement. Workers can choose the way in which their retirement funds are to be invested among an approved set of assets. The only obligation of the employer is to make the agreed-on payments to the DC fund.

The actual retirement benefits for a worker depend on the level of contributions and investment performance. A DC system is never over- or underfunded as far as the employer is

⁴ There is some controversy about how changes in pension assets find their way into profits and losses for firms. Some observers assert that there is an asymmetry in accounting that leads to investment gains having a more direct impact on firm profits than investment declines have on losses.

concerned. Once the contribution is made into the system, the employer's obligation is fulfilled.⁵

Until recently, DC plans have generally outperformed DB plans because actual investment returns during the 1990s outpaced the guaranteed returns of DB programs. This led a number of public pension systems to provide a DC option for new and short-term employees. This option began to become available just at the end of the stock market boom. The subsequent market decline has cast a pall over DC plans in the public sector. Employees enrolling in DC plans in the last few years have generally fared poorly.

If state systems were to move from DB to DC plans, the link between investment performance and state finances would be broken. However, this is unlikely to occur any time soon, if ever. For now, DB plans still dominate state systems, and the nexus between investment performance and state pension obligations continues.

The Magnitude Of State Retirement Asset Changes

The changes in state pension assets during the 1990s were truly phenomenal. Figure 5 (next page) shows this for several selected years. Assets increased over threefold (more than \$1 trillion) from 1990 to 2000. Liabilities

increased during this period, but not as rapidly.

Figure 6 (p. 511) shows the difference between assets and liabilities for the same years. From 1990 to 2000, state systems in total went from a shortfall of about \$100 billion of liabilities over assets to a surplus of more than \$200 billion 10 years later. However, this surplus was completely wiped out by 2002 because of the decline in the stock market with a shortfall of approximately the level that existed 12 years earlier. With the inexorable growth in liabilities, the shortfall could grow to \$300 billion by the end of fiscal 2003 if the market remains at the current low level.⁶

This is much larger than the size of the reported state shortfalls, or "holes," that have arisen in the current budget crises. However, pension deficiencies can be deferred while budget shortfalls cannot.

Tax receipts may increase or decrease from year to year, but they never become negative. This is not the case in regard to pension fund asset changes. Figure 7 (p. 511) shows the magnitude of state pension asset changes as a percentage of total state tax receipts and state individual income tax receipts.⁷ In several years in the late 1990s, pension fund asset increases

(Text continued on p. 511.)

⁵ Employers with DC plans do have a custodial obligation to look after the funds and to ensure that the investment options are reasonable.

⁶ No effort is made to detail here the situation in particular states. This is presented in the Wilshire report. There is great variation among states in funding levels, with many states still overfunded even after the recent market decline while others face ever more serious underfunding problems.

⁷ Not every state has an income tax. However, a similar comparison would result if sales tax receipts were used.

Figure 4
Change in State Pension Assets
Compared With State Tax Revenues

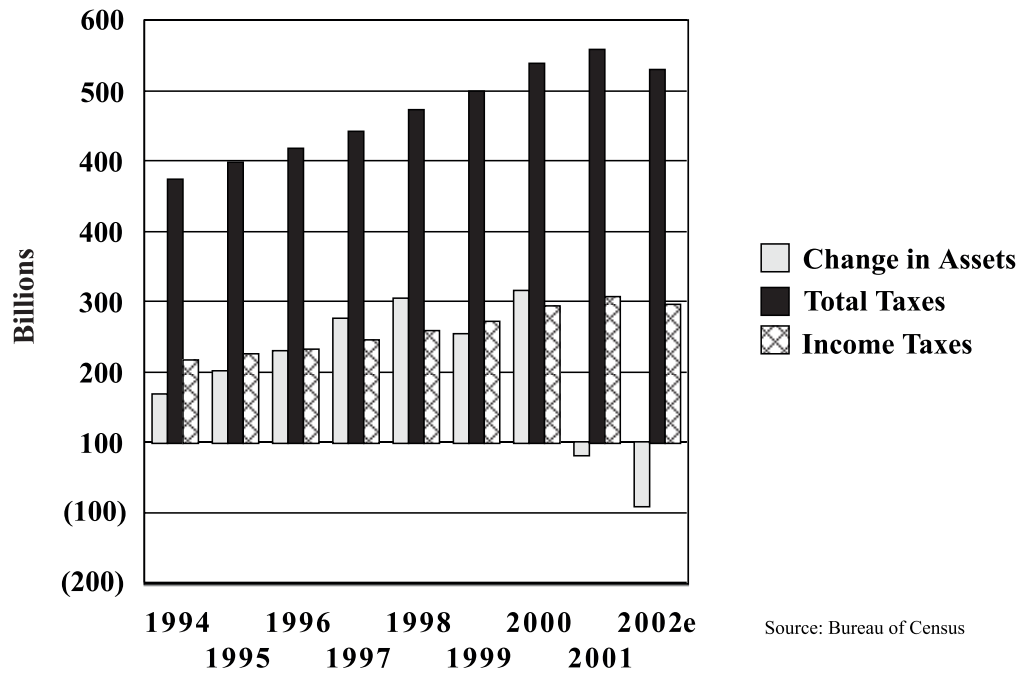
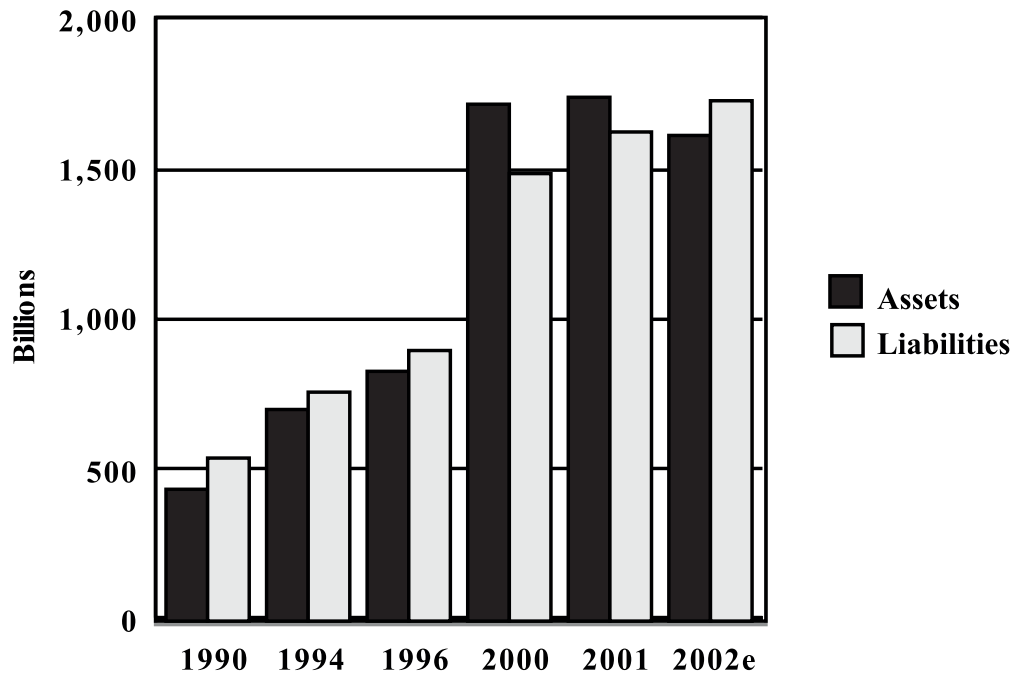


Figure 5
State Retirement System
Assets and Liabilities



(Text continued from p. 509.)

amounted to more than 40 percent of total tax receipts and more than 100 percent of income tax receipts. Then in 2001 and 2002, the changes became negative — and very large in 2002.

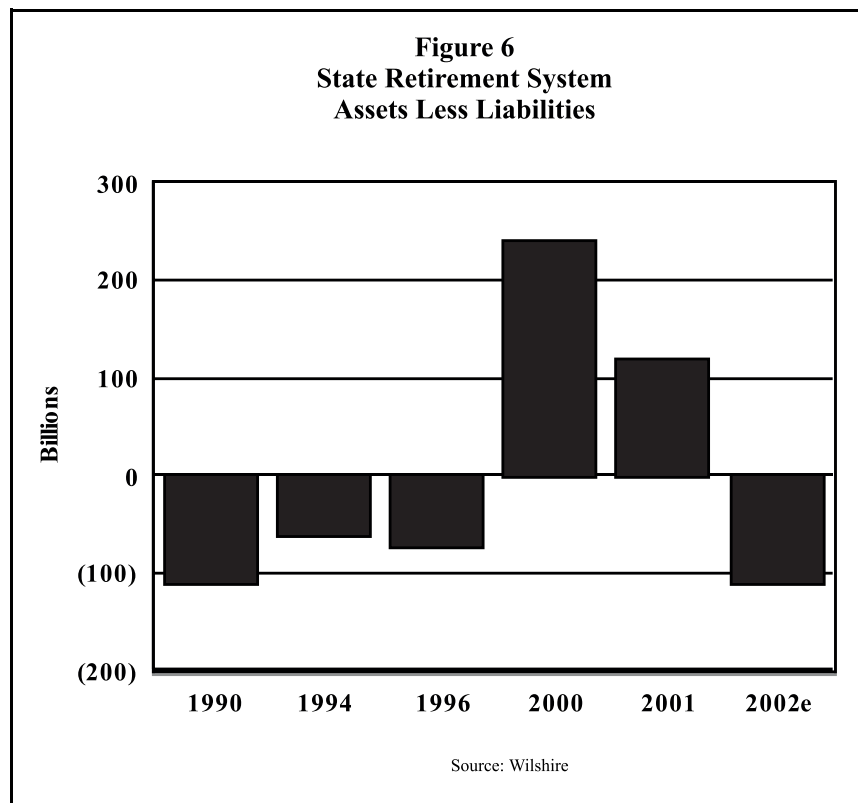
Figure 8 (next page) presents similar information for what is designated “excess” return. Excess return is defined as the actual return less an expected 8 percent return. The 8 percent figure is a common actuarial assumption concerning asset growth used by pension systems. Actuaries calculate pension system funding projections using an expected rate of return on assets.

There were consistent positive excess returns during the 1990s, followed by substantial negative returns in 2001 and 2002. Figure 9 (next page) shows actual returns in comparison with the assumed (actuarial) returns. If these excess returns cancel out over time, there will be no increase or decrease in the funding position of pensions. If they do not, they can lead to over- or underfunding.

The Size and Volatility of Asset Changes: Past and Future

Not only are pension asset changes large in comparison with state budgets, they are also growing and

**Figure 6
State Retirement System
Assets Less Liabilities**



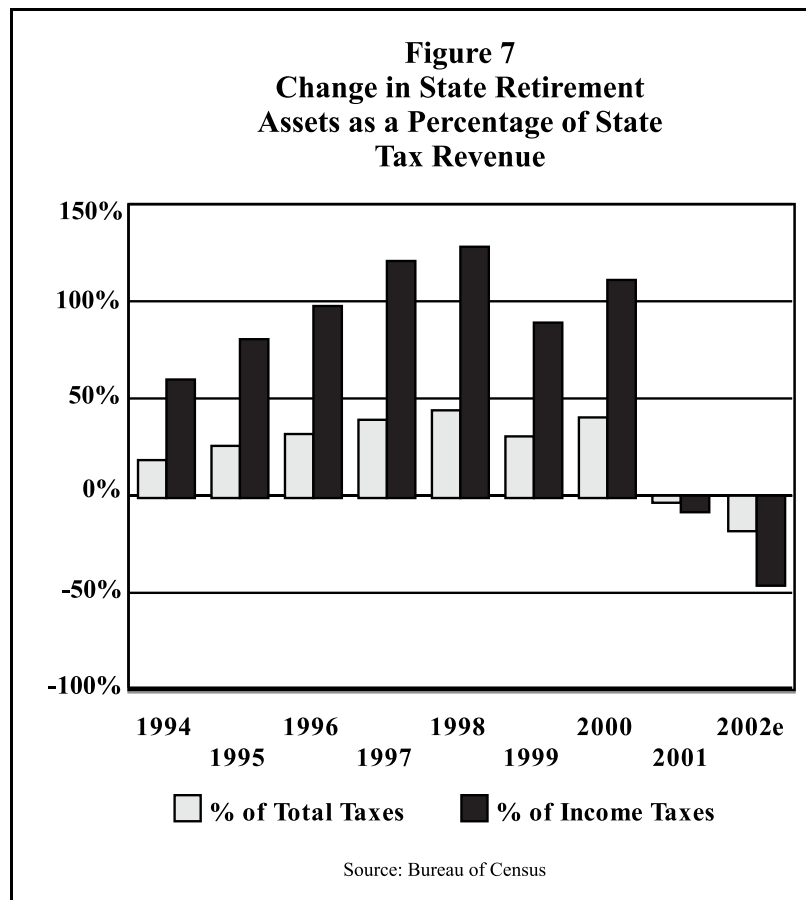
becoming more volatile. This trend is likely to continue. First, the relative size of state pension obligations is increasing. State pension liabilities increased approximately threefold from 1990 to 2002, while state tax receipts increased less than twofold during this same period. This suggests that pension funding is becoming an increasingly important aspect of state government. Assuming the continuation of DB plans, liability growth is projected to continue at the rates experienced in recent years.

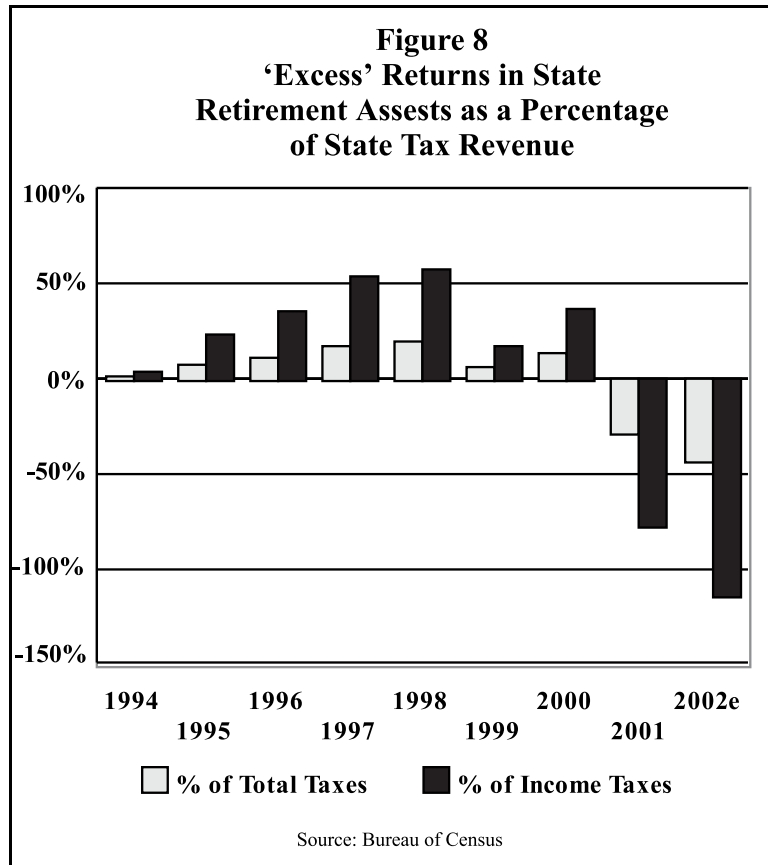
In addition to the relative size of liabilities, returns on assets have become — and are likely to become — more variable. This is explained partially by the apparent increasing volatility of the asset markets the last decade. This may or may not continue in the future.

Not only are pension asset changes large in comparison with state budgets, they are also growing and becoming more volatile. This trend is likely to continue.

The asset allocation choices of pension funds have led to more volatility as well. Funds have moved out the yield curve to higher-risk/higher-expected-return portfolios. Figure 10 (p. 513) shows the median allocation to equity and to fixed investments by state pension funds in 1994, 1996, and 2001. Equity investments went from about 45

**Figure 7
Change in State Retirement
Assets as a Percentage of State
Tax Revenue**





times states experienced from 1995 until 2000 and for the unprecedented problems that have developed the last two years. These same changes have had equally important, but less noticed, effects on state retirement systems. These changes will ultimately make themselves felt on state budgets.

The expansion of the 1990s seemingly solved the problems of pension funding in most states. Olivia Mitchell and Edwin Husted concluded: "Our review of the public pension arena at the threshold of the twenty-first century finds a generally robust, well-funded, and reasonably well managed pension environment." They were wise enough to add the following caveat: "It would also be painful if there were a substantial and long-term economic downturn."⁹

In fact, we have had a painful downturn, and state pension funding today is no sounder than in the early 1990s. This is not necessarily a cause for alarm, but it is a source of concern. Pension funding will be an increasingly important demand on state finances in the upcoming years. The 1990s were a virtual holiday from pension funding burdens in that asset growth dealt with this painlessly. This is unlikely to repeat itself in the future.

Pension funding issues do not have the immediacy of the state budget shortfalls for fiscal 2003 and fiscal 2004, but they must be considered when states address long-term structural imbalance problems.

percent in 1994 to 60 percent in 2001. The median fixed income investment percentage fell from 45 percent to less than 30 percent in the same period.⁸

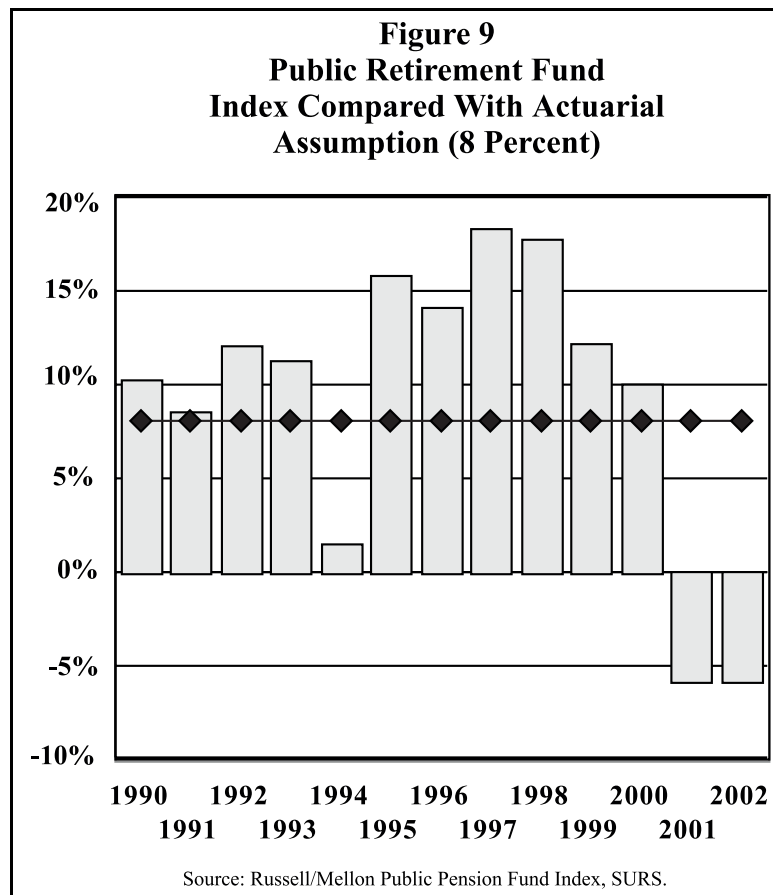
These are really dramatic changes in such a short period. They are also the continuation of a long-term trend toward more risky asset allocations. Several decades ago, the typical state pension system invested only in bonds. The higher expected returns from stocks eventually encouraged states to change statutes and operating procedures to allow equity investments. More recently, even higher-risk private equity has been added to many portfolios.

The end of the boom market of the 1990s and the declines after 2000 may encourage a rethinking of asset allocation strategies with somewhat less emphasis on equities. However, it is likely that asset allocations in the future will still result in the acceptance of relatively volatile portfolios by most state pension funds.

Conclusion

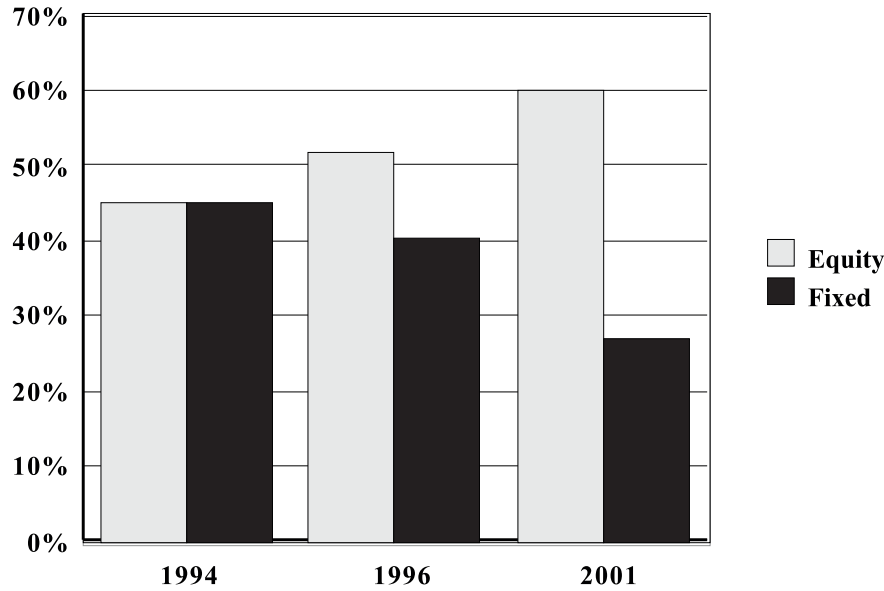
The up-and-down movements of the stock market are in large part responsible for the unusually good

⁸ The relative increase in equity investments is not simply the result of higher rates of return for equity as compared with fixed income investments. If pension funds did not rebalance, the movement toward equities would have happened automatically. However, most pension funds have a target asset allocation which is maintained through periodic rebalancing of assets. The equity target has been increased in most funds the last decade.



⁹ Husted and Mitchell, pages 9-10.

Figure 10
State Pension Systems
Asset Allocation (Median)



Source: Wilshire

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