STANFORD INSTITUTE FOR ECONOMIC POLICY RESEARCH
SIEPR

Policy Brief

Stanford Institute for Economic Policy Research

The Crisis in Pension Funding

Jeremy Bulow

How quickly times change. In May 2000 a leading actuarial firm wrote "pension income is here to stay," arguing that many companies could expect their defined benefit pension funds to generate long-term corporate profits. At that time, the assets in pension funds exceeded liabilities by half a trillion dollars. Today, the Pension Benefit Guaranty Corporation (PBGC) estimated recently that underfunded plans had accumulated deficits of $400 billion. Some claim that pension funds were hit by a "perfect storm" of declining interest rates and falling stock prices. Others ask what was the pension system doing in the middle of the ocean. Tough medicine is required to clean up the mess and put the pension system on a solid footing.

How to Value Pension Liabilities

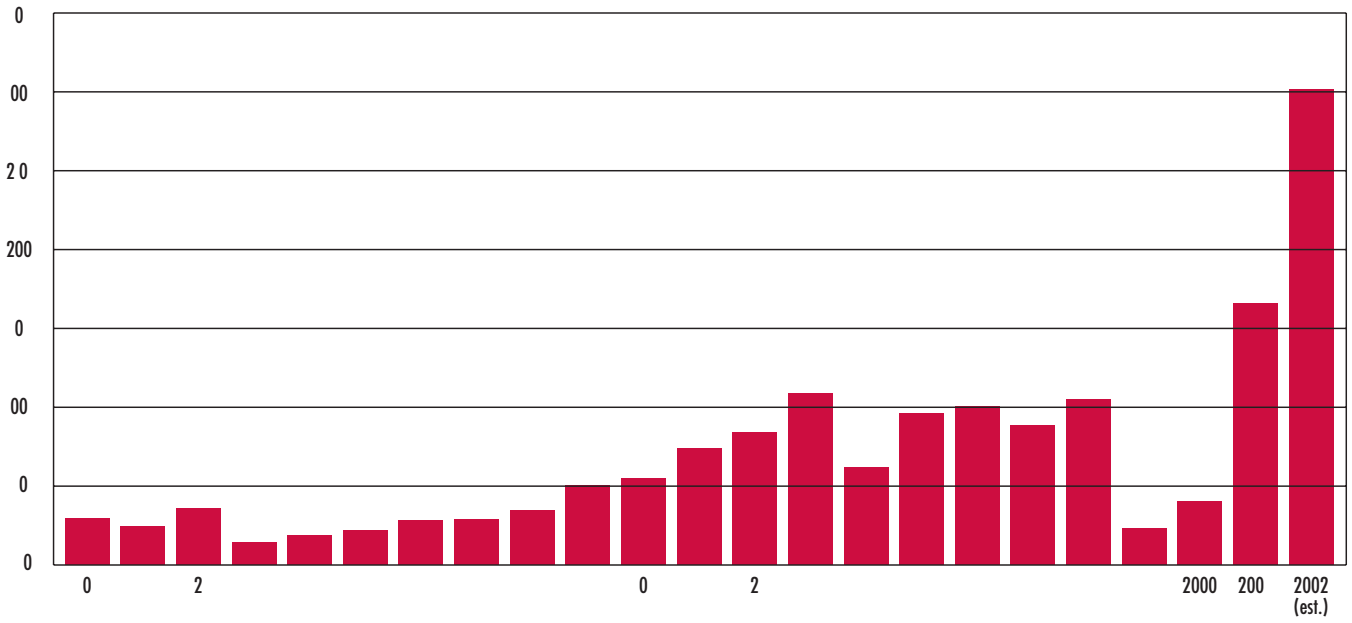
Defined benefit pension plans provide workers either a lump sum or an annuity determined by a formula, generally based on salary history, years of service, age at retirement, age at which benefits begin, and other factors. Thinking of liabilities on this termination basis, as the PBGC and most economists in the area do, the pension liability is like a very long-term bond.

Liabilities are sensitive to interest rates because of the long-term nature of the obligation. A decline in interest rates from 6 percent to 5 will typically raise the present value of a firm's pension liabilities by 10 to 12 percent. The Treasury, attempting to reflect what it would cost to buy deferred annuities to match pension obligations, sets minimum funding standards based currently on 120 percent of a four-year weighted average of its 30-year bond yields. Firms that fall below 90 percent of the minimum funding level become subject to accelerated funding requirements.

How Did Pension Funds Fall So Far So Fast?

The decline in interest rates combined with the stock market decline has dramatically increased funding requirements. One study estimates that the average fund is 60 percent invested in equities and produced a cumulative return of about -11 percent from 2000 to 2002, while the present value of liabilities has increased by over 50 percent due to the interest rate decline. Based on beginning of 2000 assets of $1.8 trillion and liabilities of $1.2 trillion, it is easy to see how a comfortable surplus could have fallen to an enormous deficit.

October 2003



Total Underfunding of Insured Single-Employer Pension Plans, 1980-2002

Source: PBGC Director Steven Kandarian, Statement to Congress, March 10, 2003

Was the Collapse Unavoidable and What Should Have Been Done to Stop It?

Economists, and now many actuaries, take the view that pension funds have obligations that are analogous to those of insurance companies that sell deferred annuities. Insurance companies attempt to hedge out their risks by holding assets and liabilities that are very highly correlated in value. For example, at the end of 2002 Goldman Sachs financed over $350 billion of capital on $20 billion of owners' equity but still maintained a top credit rating. Indeed, a goal of many firms is to try to be "market neutral" so that changes in big macro variables such as long-term interest rates and the stock market will have little effect on their investment performance.

Pension trustees, whose job it is to act in the best interests of the plan beneficiaries, should have taken the assets of plans that were fully funded until a few years ago and invested in assets that matched the risk structure of pension liabilities. Because they did not, the workers in many plans, in the airline and steel industries in particular, will receive much lower benefits than they anticipated, with government insurance (and eventually other companies and taxpayers) picking up some but not all of the losses. It is precisely because asset returns and liabilities are unpredictable that these policies should have been adopted long ago, and indeed should be mandated by the government.

Why didn't firms match pension assets and liabilities? One accounting reason is that firms are able to report higher income, at least in the short run, if they simply assume that their pension funds will earn higher rates of return.

What Are the Current Political Proposals?

There are a number of proposals on the table. Unfortunately, most of them will exacerbate the problem, and even the good proposals are only small steps in the right direction.

Recent Senate-passed legislation would allow companies to reduce their contributions by over $20 billion a year compared to current law. The House is considering a bill that would also reduce contributions, though by somewhat less. Neither addresses the investment policies that have gotten the plans into trouble.

One proposal is to replace the Treasury interest rate by a term structure of rates based on corporate bonds. The term structure idea is a reasonable one, as it would be meant to match the term structure of pension liabilities. This proposal has received strong opposition, because if short-term interest rates are below long-term rates it will raise the actuarial present value of benefits to be paid during the next few years. Some contend that because the Bush administration ended the issuance of 30-year Treasury bonds the long-term government bond rate is artificially low, and indeed the spread between the government and corporate rates has increased relative to 15 years ago. But perhaps the increase in the spread between government and corporate long-term rates has been brought about by the market's reevaluation of the risks in corporate debt.

Furthermore, if the Treasury believes that long-term government bond rates are artificially low, it should be issuing these bonds again, to both save the taxpayers money and provide a security that has scarcity value to the market.

There is no need for the government to impose investment rules on any firm that has a reasonably well funded pension plan and enough unencumbered other assets so that the pension beneficiaries and the PBGC are not at any risk. If, for example, General Electric wishes to invest its pension assets in stocks, there is no public interest in interfering with that decision, as GE's employee pensions are highly secure and any stock market losses will thus be absorbed by shareholders. But US Airways' failure to match assets and liabilities has produced a roughly $2 billion deficit in its pilots' pension plan, creating significant losses for both the pilots and the PBGC. The Dutch government has a policy of requiring asset and liability matching when a plan's assets fall to a small enough surplus over liabilities; two Stanford colleagues and I advocated such a policy in a paper 20 years ago and other economists have taken similar positions. Underfunded firms will probably argue that switching to debt securities will cost them a lot of money and ultimately harm them, because of the higher expected returns in the stock market, but they will of course still be able to make stock market bets outside of their pension fund-if they can persuade their creditors of the merits of their argument.

There are proposals before Congress to limit the accrual of new benefits and the payment of lump sums in cases where a firm has a junk bond credit rating and has pension liabilities that are already more than double plan assets. Under current law benefits can be increased with little new funding in plans that are no more than 60 percent funded. The requirements should be much tougher, so that when the PBGC has a plan termination exposure in a plan, any new accruals should not be guaranteed by the government until funding status improves.

One giant step in the right direction would require firms to mark their pension assets and liabilities to market each quarter, just as they would on balance sheet assets and liabilities. This change alone would cause firms to rethink mismatching pension assets and liabilities. Firms whose benefit promises are not reasonably safe should be allowed to promise more benefits to workers, but the extra benefits should not be subject to government guarantees until they are funded. Firms that are in deficit should be required to close the gap over time, with the gap calculated on a mark to market basis.

Finally, underfunded plans should not be allowed to hold company stock or, even worse, stock in non-traded subsidiaries such as the Pinnacle Airlines stock that Northwest is depositing in its plan in lieu of cash. Funding waivers to distressed firms should only be granted if all other creditors agree to a comparable moratorium on payments.

In the short run, such tough medicine will lead to more plan terminations and greater recognition of PBGC losses. If we avoid short-term defaults by allowing underfunded plans to cut contributions, contribute their own stock, and increase benefits that the government guarantees, we may get lucky: If the market soars and interest rates climb, then the problem will recede. But if the bet fails, the eventual cleanup cost will grow and grow quickly, even if markets don't move much. Then the defined benefit pension crisis will come to look like the bailout of the savings and loans.

References

Jeremy Bulow, Myron Scholes, and Peter Menell, "Economic Implications of ERISA," in Z. Bodie and J. Shoven (eds.), *Financial Aspects of the U.S. Pension System,* Chicago: University of Chicago Press, 1984

Ronald J. Ryan and Frank J. Fabozzi, "The Pension Crisis Revealed," *Journal of Investing, forthcoming*

About the Author

Jeremy Bulow is the Richard Stepp Professor of Economics at Stanford Graduate School of Business. His research interests have spanned several areas, with particular emphasis on game theory and microeconomics. In addition to pensions, Bulow has written academic papers on tax policy (with former Treasury Secretary Lawrence Summers), on sovereign debt (with IMF Ecomic Counsellor Kenneth Rogoff), and on auction theory (with Paul Klemperer, principle designer of the United Kingdom's 3G spectrum auction). He has consulted for U.S. government and international agencies on pensions, sovereign debt, and auction design, as well as for a number of private companies. Bulow was chief economist of the Federal Trade Commission from late 1998 until mid-2001.

The Stanford Institute for Economic Policy Research (SIEPR) conducts research on important economic policy issues facing the United States and other countries. SIEPR's goal is to inform policy makers and to influence their decisions with long-term policy solutions.

With this goal in mind SIEPR policy briefs are meant to inform and summarize important research by SIEPR faculty. Selecting a different economic topic each month, SIEPR will bring you up-to-date information and analysis on the issues involved.

SIEPR Policy Briefs reflect the views of the author. SIEPR is a non-partisan institute and does not take a stand on any issue.

For additional copies, please see SIEPR website at: http://SIEPR.stanford.edu

SIEPR **Policy Brief**

A publication of the
Stanford Institute for Economic Policy Research
Stanford University
579 Serra Mall at Galvez Street
Stanford, CA 94305
MC 6015