

# Never Again

*A transition to a secure private pension system.*

Jeremy Gold

Corporate pension funding ratios declined sharply from 2000 through 2003, and have recovered little since. Many have argued that the combination of falling interest rates and stock prices is a rare event outside the range of outcomes for which most plans had prepared (or should have prepared).

According to testimony of the American Academy of Actuaries:

[the drafters of the 1987 OBRA] could not have anticipated the Treasury's decision to stop issuing 30-year bonds nor could the rules have been prudently developed to anticipate a one-in-50 chance of an investment market like the one we've experienced over the past three years (ERISA Advisory Council Testimony [2003]).

Academy opinion was reflected further in the popular press:

"There has been this perfect storm over the last five years that we've never seen before—both the stock market and interest rates went down and then stayed down for a very long time," said ... [the] senior pension fellow with the nonpartisan American Academy of Actuaries. "We've never seen that happen before to this extent. In the early '80s, interest rates went down but stocks were stable. In 1987, the stock market fell 33 percent, but interest rates were steady. This is new territory for pensions." (Credeur [2005]).

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However, actuaries, who want “to be recognized as the leading professionals in the modeling and management of financial risk and contingent events,” should know and plan better.<sup>1</sup> Market history tells us that, although interest rates and stock prices are likely to move in opposite directions more often than not, the combination of low stock prices and interest rates will occur from time to time. These conditions are certain to occur—although the timing may surprise us—and must be in the risk management plan for corporate pensions and for policymakers.

Those who view the U.S. markets from 2000 through 2003 as a “perfect storm” or a “one-in-50 chance” might consider the Japanese experience from 1989 through 2003. On December 31, 1989, the Japanese Nikkei 225 closed at 38915.90, and the Bank of Japan discount rate was 4.25%. In 2003, the Nikkei low was 7607.88; at the same time the discount rate was 0.10%.

Morgan Stanley has estimated that plans sponsored by America’s largest corporations went from an average funding level of 129% at the end of the millennium to about 81% at the end of 2002.<sup>2</sup> In response to pleas from the pension establishment, and in the hope that the decline would reverse itself over time, Congress has provided emergency and temporary relief through 2005 in the form of the Job Creation and Worker Assistance Act of 2002 and the Pension Funding Equity Act of 2004. This legislation relaxes minimum funding requirements under IRC Section 412(1).

Under the circumstances, Congress probably had little choice when it came to the short term. Congressman John Boehner (R-Ohio) said, as he led the House to pass the PFEA [2004] relief provision, that we must use this temporary period to strengthen long-term standards and prevent a recurrence. Shall we all pledge never again to accept the risks that have nearly destroyed defined-benefit plans and the Pension Benefit Guaranty Corporation?

In my testimony before the ERISA Advisory Council (EAC) of the Department of Labor, I argued that any long-term solution must require full funding of accrued liabilities (measured at riskless rates) at all times (Gold [2003a]). My proposal amounts to fixing the Deficit Reduction Contribution [IRC Section 412(l)] and scuttling all other funding rules (Gold [2003b]).

The economic rationale for this requirement has been treated elsewhere, especially by Bader [2004], and I will not repeat it here. Instead I will presume agreement on that goal—and ask what transition path we might take.

## EXHIBIT 1 Augmented Balance Sheet

Corporation	
Corporate Assets	Corporate Liabilities
Pension	
Invested Assets	Accrued Liabilities

### WHERE WE MUST GO

Don’t we wish today that in 2000 we had adopted rules to maintain full funding for plans that were then fully funded? I suggest there are some simple rules to do that—and we can then establish a one-time transition to allow underfunded plans to catch up.

We begin by looking at plans that are already fully funded. How do we keep them that way? The short answer is immediate funding of all gains and losses as well as newly granted or accrued benefits. If valuation were a continuous process, moment-to-moment full funding would be sufficient.

But valuation and the contributions that follow represent a discrete lagged process, so we must: 1) take into account benefits that will accrue until contributions based on next year’s valuation will be made; and 2) provide a funding cushion and variable PBGC premiums that relate to the degree of asset-liability mismatch the plan has chosen to take. Hence, the accrued liabilities included in my sample balance sheets are assumed to include a forward projection and a cushion; a solvent (fully funded) plan must hold invested assets greater than these accrued liabilities. Financial economics provides a rich set of tools we can use to quantify cushion and premium levels.

Funding requirements of this sort will lead sponsors to be: cautious in promising benefits, quick to fund those promises, and reluctant to mismatch assets and liabilities.

### HOW WE GET THERE

Exhibit 1 shows an *augmented* balance sheet for a company with a fully funded DB plan. The augmented balance sheet consolidates the pension plan and its sponsor (Treyner [1972]).

Exhibit 2 shows an underfunded plan. Note that the pension unfunded accrued liability (an asset to the pension plan) is matched by a corporate pension liability. This reflects the view that unfunded liabilities amount to a borrowing by the sponsor from the plan.

**EXHIBIT 2**  
**Underfunded Plan Balance Sheet**

Corporation	
Corporate Assets	Corporate Liabilities Unfunded Pension Liability
Pension	
Invested Assets Unfunded Accrued Liability (UAL)	Accrued Liabilities

**EXHIBIT 3**  
**Effect of Borrowing**

Corporation	
Corporate Assets	Corporate Liabilities Bank Debt or Pension Bonds
Pension	
Invested Assets	Accrued Liabilities

**EXHIBIT 4**  
**Equivalent Structure**

Corporation	
Corporate Assets	Corporate Liabilities (now including bonds issued to the PBGC)
Pension	
Invested Assets (now including bonds issued by the PBGC)	Accrued Liabilities

What shall we do about all the underfunded plans on day one? In a perfect world, sponsors would all borrow (from banks or by issuing pension bonds) and fund, and the transition would be over—as shown in Exhibit 3, a debt-for-debt swap would leave employers indebted to the capital markets instead of to their employees.

But not every employer can borrow so much at one time. Even those able to borrow may not easily be persuaded to do so, much less accept legislation requiring such funding.

**Actuarial Abstraction**

Thus I suggest that we go into our traditional actuarial tool kit and employ—for the very last time—the

oxymoronic asset that we call the *unfunded accrued liability* as shown in Exhibit 2. On day one we measure the shortfall and declare this to be the unfunded accrued liability asset (sort of a bond issued by the employer, which repays the indebtedness through amortization over n years).<sup>3</sup> With this asset now recognized, all plans may be held accountable to the ultimate rules that require full funding of all losses, benefit accruals, and grants. After n years, the transition is over, and every plan has really been operating under the post-transition rules for those same n years.

Naturally, during the transition period, PBGC variable premiums will reflect the extent of the unamortized (UAL) asset, any asset-liability mismatch, and the credit quality of the employer bond. In effect, the sponsor will be paying the PBGC for a loan guaranty or a line of credit with respect to the UAL.

If the PBGC were allowed to impose deliberately steep variable premiums, sponsors might choose to use any plan gains to accelerate the amortization schedule, or to make excess contributions for the same purpose. In financial terms, such prepayment options should enter into the PBGC’s calculations.

**Financial Abstraction**

We may recast the actuarial approach so that it will be better understood by the capital markets. Sponsors of underfunded plans may be seen to be:

- Borrowing from employees combined with a PBGC loan guarantee, or
- Borrowing the underfunded amount from the PBGC at a rate that reflects the funded status of the plan and the creditworthiness of the sponsor.

The latter view suggests an equivalent formal structure. The sponsoring corporation issues private placement bonds to the PBGC, and the plan receives bonds issued by the PBGC, each in an amount equal to the initial UAL. This is illustrated in Exhibit 4.

The PBGC bonds pay interest appropriate to the agency’s credit standing without “full faith and credit” backing—a rate likely to approximate triple-A debt. The sponsor’s debt reflects the sponsor’s credit and features of the indebtedness: covenants, illiquidity, standing in bankruptcy, put and call options, and refinancing restrictions, if any. Note that the sponsor pays a higher rate than the PBGC and that this differential subsumes (and eliminates the need for) any variable PBGC premium.<sup>4</sup>

## Bond Features

A plain vanilla version of the sponsor's bond would be self-amortizing over  $n$  years just as the UAL would have been—but it need not be quite that simple. Sponsors may wish to include options, and the PBGC may be willing to offer them in exchange for a higher interest rate. For example, an option might allow actuarial gains to be applied to write down the principal of the sponsor's and the PBGC's bonds—thus saving the sponsor the spread going forward. Another option could allow the sponsor to make extra contributions to reduce the principal amounts. Even though I have described the bonds as private placements, under some circumstances tradable bonds could be issued by the sponsor or the PBGC.<sup>5</sup>

A benefit purchase option might allow plan funds to be paid over to the PBGC, which, operating as an insurer, would then pay benefits directly to some plan participants. The cost of such benefits would presumably include administrative loadings, and the resulting price should be near that offered by competitive insurers. This competitive pricing could be honed by allowing plans to purchase annuities directly from private insurers.

The PBGC might be required to guarantee these annuities (contrary to its historic, but untested, refusal to do so) and approve the private insurer—and the sponsoring plan might be charged for this guarantee. Sponsors interested in annuity purchases could then evaluate PBGC and private offerings without affecting plan beneficiaries.

The opportunities to add, subtract, and redesign these features are myriad. The few options I have identified are intended as a jumping off point—a sampling—beyond which many interested and creative members of the pension community are sure to expand.

## Advantages and Implications

The structure I propose is designed to introduce capital market principles and discipline into a pension insurance system that sorely lacks these features. I have tried to do this in a fashion that translates statutory insurance features into capital market securities with minimal disruption of the underlying economics. For example, plan sponsor issuance of bonds to the PBGC may violate current bond covenants, but, if the standing in bankruptcy of these bonds matches the standing today of PBGC claims in bankruptcy, the economic distortion should be minimal, and a statutory override of covenants may be possible.

This approach has a number of advantages. I am sure others will be able to add to, refine, and critique this list:

- Transparency—Securitizing the relationships among sponsors, the plans, and the PBGC will make it easier for Congress, citizens, capital market analysts, and employees to appraise the finances of our defined-benefit system.
- PBGC transparency—The various exposures of the PBGC would be evident.
- One-time-only credit analysis necessary—The PBGC needs to analyze the creditworthiness of the plan and its sponsor only when the sponsor's bonds are written to the PBGC. Subsequently, the rules requiring that the plan remain fully funded would be administered by the Department of Labor and the Internal Revenue Service.
- The program, with bond features as described above, could be quite flexible for the sponsor without endangering participant security.
- Hedging—This approach encourages plan sponsors and the PBGC to do more hedging. The effect would be to transfer most risk-taking to the capital markets, where risk can be efficiently distributed and managed.
- Sponsor default—Some sponsors will default on their bonds. Default will require the PBGC to assume unfunded benefits much as it does today.
- The PBGC cap on benefits [ERISA Section 4022(b)(3)(B)] has historically been used to control cost and to discourage moral hazard. Unfortunately, the cap has left certain plan participants (airline pilots, for example) far less than fully protected. With mandatory full funding, the cap may be removed.
- PBGC phase-in rules (20% or \$20 per year) were arguably used to combat moral hazard. Under a system requiring full funding at all times, this complication will be rendered superfluous within five years.
- Although my anti-disruption approach should not necessarily enhance the rights of the PBGC in bankruptcy, conversion of statutory PBGC claims to bondholder claims should encourage courts to recognize parity between the PBGC and other claimants. To date, court decisions have been inconsistent in this regard.

## CONCLUSION

My solution proposes full funding after an  $n$ -year transition period, using a bond-for-bond exchange to bring capital market discipline and transparency to the process. Although few pension actuaries are likely to take this proposal very seriously, investment bankers and financial engineers may well look upon it as a starting place for further development. For the time being, certainly, it is a legislative non-starter.

Why would pension actuaries and others in the pension community dismiss a proposal that provides permanent full funding, a long transition period, extraordinary transparency, and an objective (market-based) measurement of obligations? Banks and insurance companies are regularly held to a full funding solvency standard.

Many in the pension community would like a long transition period, but do not want to pay a high price for permanent solvency, transparency, and objectivity. They are convinced that equity investments for the long run, combined with smoothing and deferral that hides the associated risks, add value that can be shared between shareholders and plan beneficiaries. This is greatly at odds with the lessons of the capital markets where equity risk is priced and hedged from moment to moment.

Much of the confidence in the pension system (which has been greatly weakened of late) derives from the view that pensions are for the long run and can be paid for by solvent companies using a perpetual budget approach. But companies and industries fail regularly, and those that fail often leave severely underfunded promises in their wake.

Recently we have learned that the PBGC, created to protect individuals in failed plans, cannot even protect itself. PBGC losses continue to mount even as the community resists proposals that would strengthen funding and raise premiums. We are told that “only a few specific industries” have failed or are in danger, and that the overall system needs only a few tweaks. We can keep equities; we can keep smoothing and deferral and rolling amortizations of funding shortfalls in perpetuity; we can keep credit balances; and we don’t really have to raise variable PBGC premiums dramatically.

In short, much of the community does not want fixes that acknowledge that the system is broken—not to mention built to stay broken.

Klieber [2005] suggests that the PBGC can never be rescued by a political process and therefore privatization may be necessary to let insurers set their own competi-

tive premiums. Ippolito [2004] suggests that the PBGC compete with private consortiums of plan sponsors that will establish their own mutual insurance pools and premium levels. In this way the risks will sort themselves out, and sponsors will optimize the trade-off between underfunding and premiums.

In effect, the Ippolito and Klieber approaches would drive sponsors toward fully and fairly valued premiums. My approach also calls upon private forces, but differs in that it aims to drive sponsors to borrow in the capital markets in order to fund their plans fully.

Actuaries, informed by the lessons of the capital markets and financial economics, have an opportunity to teach sponsors that an equity-supported free lunch is not possible in a transparent world. Shareholder value is best served by bond investment, proper liability pricing, and reduced benefits. Employees may be best served by secure benefits whose payoff does not depend on the same basket of eggs as their livelihoods. Taxpayers will be well served if the inducements they offer to pension plans do not come back to bite them as underfunded plans are dumped on a PBGC that cannot bear the load.

In order to fight to preserve defined-benefit plans, actuaries may have to separate themselves from those in the pension community whose special interests can be served only by doing things the old way. Transparency and objectivity threaten these interests: equity managers, unions seeking larger benefits than competitive firms can afford to fund, and corporate managers focused on earnings under FAS 87 rather than on shareholder value.

Can we actuaries separate ourselves from these long-time allies and still keep sponsors in the game? Will well-informed sponsors stay in a transparent world where every plan carries its own weight and benefits appear more costly? If some will, we may serve them well with science, transparency, and objectivity rather than with the free lunches of yore. If none will stay in a transparent world, should we try to keep them in the game by concealing risks and understating benefit costs until the losers are thrown upon the PBGC?

Do we really think society has much tolerance left for such a vulnerable system?

## ENDNOTES

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<sup>1</sup>The quotation is from the Society of Actuaries Strategic Plan [2004-2007].

<sup>2</sup>About 70% of S&P 500 companies sponsor defined-benefit plans. Ratios of asset values at market to the reported pension benefit obligation rose to 89% by year-end 2004. In 1999, 90% of these plans had ratios above 100%; by 2003, 90% were below 100%; by 2004, 83% remained under 100%.

<sup>3</sup>Cowling, Gordon, and Speed [2004] characterize this as the “company covenant,” which depends on the ability and willingness of the sponsor to make good on the shortfall (or on the power of the plan to collect).

<sup>4</sup>Bond covenants might conditionally restrict the mismatch of plan assets and liabilities.

<sup>5</sup>If the sponsor were required to issue a portion of its bonds to the public, some market discipline would be injected into the PBGC’s credit evaluation process.

## REFERENCES

Bader, Lawrence N. “Pension Deficits: An Unnecessary Evil.” *Financial Analysts Journal*, 60 (3), May/June 2004, pp. 15-20.

Cowling, Charles A., Timothy J. Gordon and Cliff A. Speed. “Funding Defined Benefit Pension Schemes.” Presented to the Institute of Actuaries, October 25, 2004, and to the Faculty of Actuaries, January 17, 2005.

Credeur, Mary Jane. “\$5B Burden: Delta Seeks Relief from Crushing Pension Obligations.” *Atlanta Business Chronicle*, March 25, 2005.

ERISA Advisory Council Testimony. For the Working Group on Defined Benefit Plan Funding and Discount Rate Issues of the Advisory Committee on Employee Welfare and Pension Benefit Plans. American Academy of Actuaries, July 24, 2003.

Gold, Jeremy. “Comments to the ERISA Advisory Council.” *Pension Section News*, Society of Actuaries, September 2003a, p. 7.

———. “Stopping the Insanity in Pension Funding.” *Contingencies*, American Academy of Actuaries, September-October, 2003b, pp. 34-37.

Ippolito, Richard A. “How to Reduce the Cost of Federal Pension Insurance.” Cato Institute, Policy Analysis No. 523, August 24, 2004.

Job Creation and Worker Assistance Act. Public Law 107-147, 2002.

Klieber, Eric J. “A Comprehensive Defined Benefit Pension Plan Reform Proposal.” Forthcoming, Society of Actuaries, 2005.

Pension Funding Equity Act. Public Law 108-218, 2004.

“Society of Actuaries Strategic Plan 2004-2007.” Society of Actuaries, 2004. Available at [http://www.soa.org/ccm/cms-service/stream/asset?asset\\_id=8015079&g11n](http://www.soa.org/ccm/cms-service/stream/asset?asset_id=8015079&g11n).

Treynor, Jack L. (pseud. Walter Bagehot). “Risk and Reward in Corporate Pension Funds.” *Financial Analysts Journal*, January/February 1972, pp. 80-84.

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