

# **Never Again**

## ***A Transition to a Secure Private Pension System***

Jeremy Gold\*

Working Paper, May 13, 2005

Copyright 2005

Please do not cite or quote without author approval. Acknowledgements and thanks appear elsewhere.

---

\* FSA, PhD, *Jeremy Gold Pensions*, 22 West 26<sup>th</sup> Street, NYC 10010-2023, 212-627-8120, [jeremy-gold-wp00@wharton.upenn.edu](mailto:jeremy-gold-wp00@wharton.upenn.edu).

# Never Again

## *A Transition to a Secure Private Pension System*

### **Abstract**

The combination of declining stock prices and interest rates in the United States from 2000 through 2003 revealed a pension funding and PBGC vulnerability of hitherto unrecognized magnitude. The ensuing activities of Congress and the many who wish to influence Congress have led to a vigorous discussion of ways to reduce this vulnerability, protect plan participants, and encourage plan sponsors to “stay in the game.” Too many of these proposals, however, amount to special pleadings for some stakeholders, usually at the expense of others. Other proposals promise boons for all stakeholders from a free-lunch machine fueled by risky investments, deferrals of cost and optimistic expectations.

Because it is economically efficient for plans to become and remain fully funded at all times, I start by presuming agreement on that goal, which may be effected after a suitable, though not necessarily rapid, transition. I propose creating capital-market-based transition securities that mimic the existing relationships between DB pension plans, their corporate sponsors and the PBGC. These securities will bring transparency and objectivity to the funding discussion.

The bulk of the paper addresses the transition and how it may be clarified, disciplined and managed by securitization.

### **1. Background**

Corporate pension funding ratios declined sharply from 2000 through 2003 and have recovered little since then. Many have argued that the combination of falling interest rates and stock prices was a rare event that was outside the range of situations for which most plans had, or should have been, prepared.<sup>1</sup>

However actuaries, who aspire “to be recognized as the leading professionals in the modeling and management of financial risk and contingent events,”<sup>2</sup> should know and plan better. 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 arise from time to time.<sup>3</sup> 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.

It has been 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>4</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.<sup>5</sup>

Was all this necessary? Under the circumstances, Congress probably had little choice when it came to the short term. Congressman John Boehner (R-Ohio) has 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 DB plans and the PBGC? In my testimony before the ERISA Advisory Council (EAC) of the Department of Labor (Gold 2003a), I argued that any long term solution must require full funding of accrued liabilities (measured at riskless rates) at all times. 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 by me and others (especially 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.

### **2. Where We Must Go ...**

This section outlines very simple rules that would maintain full funding for plans that are fully funded now or become so in the future—

i.e., the rules that we might like to have had in 2000. Section 3 outlines a one-time transition that allows 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 comprise 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 the following 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 with which 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.

### 3. ... and How We Get There

Figure 1 shows an *augmented* balance sheet for a company with a fully funded DB plan.<sup>6</sup>

**Figure 1**

Corporation	
Corporate Assets	Corporate Liabilities
Pension	
Invested Assets	Accrued Liabilities

Figure 2 shows an underfunded plan. Note that the pension funding shortfall (the UAL, 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.

**Figure 2**

Corporation	
Corporate Assets	Corporate Liabilities Unfunded Pension Liability
Pension	
Invested Assets Unfunded Accrued Liability (UAL)	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 Figure 3, a debt for debt swap would leave employers indebted to the capital markets instead of to their employees.

**Figure 3**

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

But not every employer can borrow so much at once. Even those able to borrow may not easily be persuaded to do so, nor to accept legislation requiring such funding.

#### 3.1 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 Figure 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 who repays the indebtedness through amortization over  $n$  years)<sup>7</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.  $N$  years later, 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 premiums will reflect the size of the unamortized (UAL) asset and the credit quality of the employer bond referred to above. 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, the existence of such prepayment options should enter into the PBGC’s calculations.

### 3.2 Financial abstraction

We may recast the actuarial approach in a fashion that 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, alternatively
- 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 (Figure 4): 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. The PBGC bonds pay interest appropriate to its credit standing as a U.S. agency 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<sup>8</sup>, 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.

**Figure 4**

Corporation	
Corporate Assets	Corporate Liabilities (now including Bonds Issued to the PBGC)
Pension	
Invested Assets (now including Bonds Issued by the PBGC)	Accrued liabilities

#### 3.21 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, there might be circumstances under which tradable bonds could be issued by the sponsor or the PBGC.

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 (contradicting its historic, but untested, refusal to do so) and approve the private insurer—and the sponsoring plan might be charged for the 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.

#### 3.22 Advantages and Implications

The structure outlined herein is designed to introduce capital market principles and discipline into a pension insurance system which sorely lacks these features. I have attempted to do so in a fashion that translates statutory insurance features into capital market securities with minimal disruption of the underlying economics. For example, the issuance by the plan sponsor of bonds to the PBGC may violate existing 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 existing covenants may be possible.

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

- Transparency — Securitizing the relationships between sponsors, the plans and the PBGC will make it easier for Congress, citizens, capital markets analysts and employees to appraise the finances of our DB system.
- PBGC transparency—the various exposures of the PBGC would be evident.
- One time only credit analysis necessary—the PBGC need 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 DOL and the IRS.
- 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. This will transfer most risk-taking to the capital markets where it can be efficiently distributed and managed.
- Sponsor default—some sponsors will default on their bonds. The 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 (e.g., airline pilots) 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 the proposed 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 results have been inconsistent in this regard.

#### **4. Conclusion**

This paper 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 nonstarter.

Why might 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. The community is 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 and built to stay broken.

Some have suggested that the PBGC can never be rescued by a political process and, therefore, privatization may be necessary to let insurers set their own competitive premiums (Klieber 2005). Ippolito (2004) suggests that the PBGC compete with private consortiums of plan sponsors who will establish their own mutual insurance pools and premium levels. In this way the risks will sort themselves out and sponsors will optimize the tradeoff between underfunding and premiums. In effect, the Ippolito and Klieber approaches would drive sponsors towards 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 smaller 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 DB plans, actuaries may have to separate themselves from those in the pension community whose special interests can only be served 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, managers focused on earnings under FAS 87 rather than on shareholder value.

Can we actuaries separate ourselves from these longtime 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 that society has much tolerance left for such a vulnerable system?

---

<sup>1</sup> "They [the drafters of OBRA '87] 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." (AAA 2003)

" '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 Ron Gebhardt, 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)

<sup>2</sup> Society of Actuaries Strategic Plan (2004-2007).

<sup>3</sup> 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%.

<sup>4</sup> Source: Morgan Stanley. S&P 500 companies, about 70% of which sponsor DB plans. Ratio of asset values at market to the reported PBO. This ratio 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>5</sup> JCWAA (2002), applicable for 2002 and 2003, and PFEA (2004), applicable for 2004 and 2005, each relaxed minimum funding requirements under IRC Section 412(l).

<sup>6</sup> The augmented balance sheet consolidates the pension plan and its sponsor (Treynor 1972).

<sup>7</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 upon the power of the plan to collect).

<sup>8</sup> These covenants might conditionally restrict the mismatch of plan assets and liabilities.

## **Acknowledgments**

## **References**

- American Academy of Actuaries. 2003. 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. July 24.
- Bader, Lawrence N. 2004. Pension Deficits: An Unnecessary Evil. *Financial Analysts Journal* 60(3). May-June. Pp. 15-20.
- Credeur, Mary Jane. 2005. \$5B Burden: Delta Seeks Relief from Crushing Pension Obligations. *Atlanta Business Chronicle*. March 25.
- Cowling, Charles A., Timothy J. Gordon and Cliff A. Speed. 2004. Funding Defined Benefit Pension Schemes. Presented to the Institute of Actuaries, 25 October 2004, and to the Faculty of Actuaries, 17 January 2005.
- Gold, Jeremy. 2003a. Comments to the ERISA Advisory Council. *Pension Section News*, Society of Actuaries. September. P. 7.
- \_\_\_\_\_. 2003b. Stopping the Insanity in Pension Funding. *Contingencies*, American Academy of Actuaries. Sept.-Oct. pp. 34-37.
- Ippolito, Richard A. 2004. How to Reduce the Cost of Federal Pension Insurance. *Cato Institute*. Policy Analysis No. 523. August 24.
- JCWAA (Job Creation and Worker Assistance Act). 2002. Public Law 107-147.
- Klieber, Eric J. 2005. A Comprehensive Defined Benefit Pension Plan Reform Proposal. Working Paper. May.
- PFEA (Pension Funding Equity Act). 2004. Public Law 108-218.
- Society of Actuaries Strategic Plan. 2004-2007. Society of Actuaries.  
[http://www.soa.org/ccm/cms-service/stream/asset?asset\\_id=8015079&g1](http://www.soa.org/ccm/cms-service/stream/asset?asset_id=8015079&g1)  
[ln](#) P. 8.
- Treynor, Jack L. (using pseudonym, Walter Bagehot). 1972. Risk and Reward in Corporate Pension Funds. *Financial Analysts Journal*. Jan.-Feb. Pp. 80-84.