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The Center On Federal Financial Institutions (COFFI) is a nonprofit, nonpartisan, non-ideological policy institute focused on federal insurance and lending activities.

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PBGC: When Will the Cash Run Out?

The Pension Benefit Guaranty Corporation (PBGC) currently has over \$30 billion in assets and could pay benefits through 2020, according to our base case. At the same time, it is insolvent on the basis of Generally Accepted Accounting Principles (GAAP) and would be shut down if it were a private insurer. It is possible to be simultaneously “cash rich” and insolvent, because of the structure of PBGC’s pension guaranty. It takes over both the assets and liabilities of underfunded pension plans that are terminated when their sponsoring companies hit extreme financial distress. Since pension payments are spread over many years, even a severely underfunded plan usually brings enough assets to pay for a few years of benefits. But, once this cash runs out, payments must be made from premiums or assets taken over from other failed pension plans.

COFFI has developed a model to explore PBGC’s financial condition, particularly when it will run out of cash. We supplement our analysis of PBGC’s current condition by examining the impact of potential terminations at United Airlines and at other carriers. Despite the model’s approximations, the general conclusions are clear and unlikely to change in a more sophisticated exercise, although the exact numbers and dates would vary.

We believe this is the first PBGC cash flow model in the public domain. We hope that this initial model will inspire others to create their own numerical analyses. The Social Security debate has been much enhanced by a focus on future cash flow projections and we believe the PBGC debate would similarly benefit. In line with Social Security analyses, we have chosen a 75 year projection period to show the implications of actions taken in the near future that have ramifications for many years to come, even though we recognize that the exact shape of the distant future is unknowable. Analyses of shorter periods, such as 40 or 50 years, lead to broadly similar conclusions.

All our analyses assume continuation of current law. This is particularly important in regard to calculations of required premium levels. Legislation that reduced PBGC’s risk level would diminish the need for higher premiums, although the figures suggest that premiums would need to increase somewhat in any event.

Those unfamiliar with PBGC may wish to consult www.coffi.org, where we have detailed reports on PBGC and related pension issues, written in non-technical language. *PBGC: A Primer*, may be of particular value to newcomers to this area.

Executive Summary

COFFI has created the first published cash flow model for PBGC's main program. Our key conclusions are:

- **PBGC would run out of cash in 2020, if our base case holds true.** PBGC's \$34 billion of assets, as of the end of Fiscal 2003, would be exhausted by pension payments, despite premiums of \$900 million per year and income on the investments. In the base case, new claims are assumed to come in each year with an underfunding of \$2.7 billion, producing a present value of claims roughly equal to PBGC's median claims estimate for the next 10 years. Payments on each new claim start low and mount over time.
- **A root cause of the cash crisis is PBGC's existing insolvency.** The program started 2004 insolvent by \$11.2 billion, or roughly a quarter of its obligations. Existing liabilities would exhaust existing investments, and future investment income, by 2018. This assumes PBGC were to be shut down, with no new premiums, claims, or the pension assets associated with new claims,
- **Filling the existing hole, without new claims, requires a \$14 billion rescue now (or more later), or earmarking \$720 million of annual PBGC premiums, or raising investment returns to 7.8% from 5.0%.** A \$14 billion rescue covers the \$11 billion accounting shortfall, plus additional projected expenses. Carving \$720 million annually out of premiums could require higher premium rates, as it would not leave a cushion for future claims and expenses. Finally, raising returns to 7.8% would require a substantial, winning bet on the stock market or a sharp, sustained rise in market rates.
- **Factoring in new claims can either defer or accelerate the cash crisis, depending on claim specifics.** Failed pension plans initially add to cash and investments since they bring assets sufficient for some years of pension payments. For example, the base case projects an inflow of \$26 billion in assets from new claims through 2015, in present value terms, versus \$25 billion in pension payments and expenses on these new claims in the same period. After that, the net effect in the base case of years of new claims is to drain cash. This effect on the cash exhaustion date is more than offset in the base case by the benefit of assuming premium income, despite the ultimate inadequacy of those premiums.
- **Whether they defer or accelerate the cash crunch, new claims dig a bigger hole for PBGC, unless covered by adequate premiums.** Trying to defer the cash crisis through new claims is worse than "borrowing from Peter to pay Paul". Base case new claims bring assets over the 75 years with a present value of \$57 billion versus benefit and administrative payments over the same period with a present value of \$124 billion, even without counting the large tail of benefit payments beyond the 75th year.
- **Base case new claims would require a \$67 billion rescue now (or more later), or PBGC premiums of \$3.9 billion annually, or nearly doubling investment returns to 9.6% from 5.0%,** in order to pay pensions through 2080. An extra \$3 billion in annual premiums would have a net present value approximately equal to the \$67 billion shortfall.
- **Even if new claims were to drop to \$1 billion per year, it would still require a \$21 billion rescue, or \$1.8 billion in annual premiums, or an increase in investment returns to 7.5% from 5.0%.**
- **Retirees would suffer strongly from cash exhaustion at PBGC, barring a government rescue.** \$900 million in annual premiums would fail to cover all expenses, leaving nothing for retirees. Even if Congress separately allocated funds for expenses, premiums would cover only 9% of promised pensions. There would be a "cliff" effect, with pensions falling from the full guaranteed level to 9% of that level, or less, within two years. There is no mechanism at present for ramping down.

We supplemented the base case by examining three scenarios for airline terminations: (a) terminations at United Airlines; (b) terminations at United, American, Continental, Delta, Northwest and US Airways; and (c) terminations at all airlines with significant underfunding.

- **Terminations at United, on top of the base case, would require a cumulative \$75 billion rescue, \$4.2 billion in annual premiums, or a 9.8% investment return.** Absent offsets, the terminations would accelerate cash exhaustion by a few months.
- **Terminations at all airlines, added to the base case, would require a \$109 billion rescue, \$5.8 billion in annual premiums, or a 10.2% investment return.** Cash exhaustion would accelerate by two years to 2018.

Table 1 summarizes the implications of the base case and a number of alternative scenarios. Mathematically, there are four ways to offset cash shortfalls: (1) a taxpayer rescue; (2) higher premium levels; (3) higher investment returns; and (4) lower net claims on PBGC. This paper does not propose policy solutions. Instead, we show the mathematical results from our model for alternative ways of avoiding a cash shortfall over the 75 year projection period.

Table 1: Key results of different scenarios (\$ billions)

Scenario	New Claims (Annual)	New Claims (One-off)	Premium (Annual)	Year of Exhaustion	Potential Offsets		
					Rescue Required (2004 \$)	Total Prem. Required (Annual)	Invest. Return Req.
Base	\$2.7	None	\$0.9	2020	\$67	\$3.9	9.6%
Existing/Shutdown	None	None	None	2019	\$14	\$0.72	7.8%
Fewer claims	\$1.0	None	\$0.9	2023	\$21	\$1.8	7.5%
More claims	\$3.7	None	\$0.9	2019	\$94	\$5.1	10.3%
Base + United	\$2.7	\$6.4	\$0.9	2019	\$75	\$4.2	9.8%
Base + Legacy Air	\$2.7	\$20	\$0.9	2018	\$95	\$5.1	10.1%
Base + All Airlines	\$2.7	\$30	\$0.9	2018	\$109	\$5.8	10.2%

Some results, such as raising premiums by 600%, seem very unlikely politically and have the potential to aggravate the situation by pushing healthier plan sponsors to leave the pension system. We do not attempt here to model the ultimate effects of complex policy choices, but only to show the size of action required by the arithmetic. Nor do we mean to suggest that higher investment income can be procured “for free” or even guaranteed. Barring a sharp, sustained increase in market interest rates, investment income could only be increased significantly by taking on more risk, *and by winning the bet that riskier assets would perform better than low-risk assets*. A losing bet would aggravate the ultimate problem.

Potential Objections

The author benefited from the comments of numerous reviewers of earlier drafts. The process confirmed the mechanical soundness of the model, but brought up several comments worth addressing here.

Is 75 years too long a projection period? We chose 75 years for the same basic reason that Social Security models do. People are working today under the promise that the pension benefits they are earning will be protected. It will be many years before all existing vested pension benefits are paid.

Will new PBGC claims continue that long? Our model assumes current law. We do not believe that the weaker firms most likely to utilize PBGC’s insurance will voluntarily exit the system, which would require them to find the cash to buy expensive group annuities to fund their plans. It is also difficult to imagine legislation that would shut PBGC down to new claims, since workers and retirees are relying on the promised coverage.

Is it reasonable to assume claims continue at this decade’s levels? COFFI’s base case actually assumes a steady decline in the value of future claims in today’s dollars. A steady level of \$2.7 billion per year in future dollars produces a net present value (NPV) for the first decade that matches the \$22 billion produced by PBGC’s PIMS model for the median case. The table below shows the decline in NPV after that.

Table 2 NPV of base case new claims

Decade	Net Present Value
2004-2013	\$22 billion
2014-2023	\$14 billion
2024-2033	\$ 8 billion
2034-2043	\$ 5 billion
2044-2053	\$ 3 billion
2054-2063	\$ 2 billion
2064-2073	\$ 1 billion

Would a probabilistic model be better? We believe showing one case at a time, in detail, is a powerful tool to complement probabilistic models that summarize a wide range of potential cases. Private sector financial analyses of insurers are virtually always done with a deterministic model such as ours, even for major deals. The author himself has created several hundred such models while on Wall Street.

Is a 5% investment return too low? This figure is realistic given existing PBGC investment guidelines and current financial market conditions. We include sensitivity analyses for those who are confident that market rates will increase or who believe that PBGC should invest more in stocks and are sure of their stock market predictions.

Is a 52% funding ratio too low? A 52% ratio of pension assets to liabilities taken over by PBGC is consistent with last year’s claims experience and the average over PBGC’s life. The last half of the 1990’s was better, but this could be due to the unprecedented rise in the stock market rather than to legislated funding changes that took effect. Higher ratios would have some effect, but do not change the overall picture.

Will new claims pay out more slowly than historically? New claims are likely to come from old-line companies with old workforces, as was true historically. If payouts turn out to be slower, this will affect the timing of cash exhaustion, but have much less effect on the size of the problem, at any given NPV of claims.