



CENTER ON
FEDERAL FINANCIAL
INSTITUTIONS

Suite 600
2121 K Street, Northwest
Washington, DC 20037

TEL: 202.775.6329
WWW.COFFI.ORG

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original issue date: April 7, 2004
Douglas J. Elliott
douglas.elliott@coffi.org

PBGC: Fundamental Questions

44 million employees and retirees rely on the Pension Benefit Guaranty Corporation (PBGC) to help protect \$1.5 trillion worth of promised pension payments. Unfortunately, PBGC faces an \$11.2 billion deficit in its principal program, as of September 2003, a dramatic deterioration from the \$7.7 billion surplus just two years earlier.

We believe that coherent policy decisions on PBGC and pension issues need to start with answers to seven fundamental questions.

- Are defined benefit pension plans better than defined contribution plans? (p. 2)
- What are the purposes of PBGC? (p. 6)
- How have pension plans changed over time? (p. 9)
- How has PBGC's universe of pension plans changed? (p. 11)
- Are defined benefit plans on their way to extinction? (p. 15)
- Is the PBGC deficit temporary or a symptom of structural problems? (p. 19)
- Would tougher funding requirements cost jobs? (p. 23)

Please see a companion piece, "PBGC: A Primer," issued simultaneously, for a non-technical explanation of PBGC and related pension and tax rules. We attempt to remain non-technical here as well but will presume knowledge of the subjects covered in the Primer. A neutral discussion of specific policy options is contained in another companion piece, "PBGC Policy Options: A Comprehensive Listing," to be issued in the second quarter of 2004.

COFFI does not advocate any policy positions in these papers and we do not mean to endorse a position merely by stating an argument clearly. We will provide facts and quantification where these are relevant and available. Please see the "References" section for more details on articles referenced in this paper. The author would like to gratefully acknowledge the considerable assistance of Barry Anderson, Barbara Bovbjerg, Bill Gale, Thorne Griscom, Elizabeth Heyert, Nell Hennessy, Ellen Seidman, and others who chose to remain anonymous. The author is solely responsible for the opinions expressed here and for any factual errors.

Are defined benefit plans better than defined contribution plans?

The Halls of Congress recently rang with elegies to defined benefit (DB) pension plans. Not so long ago, others sang the praises of defined contribution (DC) plans in the New Economy. So, which is better?

There is no unambiguous answer. First, there is no general agreement on critical value judgments, such as whether protecting participants is more important than giving them choice and control. Second, there is a great deal of diversity among “defined benefit” plans and among “defined contribution” plans.

Delving down one layer of detail may help policymakers clarify their judgments without getting lost in complexity. Table 1, on page 5, shows how five sub-categories of pension plan arrangements match up against 21 public policy characteristics.

Range of Pension Plan Design

For ease of illustration, the pension plan descriptions are based on a typical set of rules for each type, without taking account of all legal variations. The first three types are explained in more detail in our companion piece, “PBGC: A Primer.” It is worth noting that Congress could design new arrangements with a different mix of characteristics.

Traditional defined benefit plans. Retirees receive a monthly payment for life, with the option of continuing payments for a surviving spouse. The pension level is based on years of service and, usually, pay levels, but not on investment returns.

Traditional DB plans with lump sum payouts. Same as the first type, except that retirees have the option of a single up-front payment with the same value as the series of monthly payments they would otherwise receive. An overwhelming majority of participants choose lump sums when available. 89% of plan participants chose a lump sum over an annuity in one survey (Watson Wyatt, 1998). Even people with large balances and older participants strongly preferred cash. Approximately half of DB plans offer lump sums. (Estimates range from 34-64%, see Brown and Warshawsky, p. 20).

Hybrid DB plans, such as “cash balance” plans. These are legally structured as DB plans, but mimic the individual accounts and easy portability of DC plans. Benefits are based on hypothetical individual accounts that receive credits for annual service, usually related to salary level at the time, and for interest earned on previous balances. Lump sum payouts are the norm.

401(k) DC plans. Employees may elect to have contributions taken out of their paychecks. Employers typically contribute an additional “matching” percentage of the employee’s contribution. Employees eventually receive the value of all contributions plus or minus any investment income or loss. Lump sum payouts are the norm.

Non-401(k) DC plans. This category includes versions of the “money purchase,” “profit sharing,” and “employee stock ownership” plan types, to the extent that they do not allow a participant to choose whether to defer income using a 401(k) arrangement. Employers contribute to individual

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employee accounts. Employees eventually receive the value of all contributions plus or minus any investment income or loss. Lump sum payouts are the norm.

Public Policy Objectives

The key objectives fall into four broad categories:

Participant protection against inadequate retirement savings, resulting from: insufficient savings rates; poor investment performance; unexpectedly long lifespan; a squandering of savings; or a failure of the sponsor to fund the plan.

Participant control over the plan and the investments. Participants generally want flexibility to: change jobs with minimal penalty; change contribution levels; optimize their investments; and withdraw funds.

Business attractiveness of offering the plan. Companies want benefits that employees will value; cash requirements that are flexible or at least predictable; minimal regulatory burden; and the investment upside.

Other retirement security public policy objectives include: breadth of availability and participation; flexibility for small business; coverage for widows and widowers and minimal cost to PBGC.

Rankings

The rationales for the rankings shown in Table 1 are given in Appendix 1, which also contains a detailed explanation of the 21 sub-objectives. There is admittedly considerable subjectivity in the exact rankings. However, few analysts are likely to systematically dispute the relative rankings.

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Table 1: Summary of Advantages and Disadvantages

	Trad DB	With Lump Sum	Hybrid DB	Non- 401(k) DC	401(k)
Participant protection	●	●	●	●	●
Automatic savings	●	●	●	●	●
Protection from investment risk	●	●	●	●	●
Protection from longevity risk	●	●	●	●	●
Protection from “spendthrift” risk	●	●	●	●	●
Transparency	●	●	●	●	●
Protection from funding risk	●	●	●	●	●
Participant control	●	●	●	●	●
Flexibility to change jobs	●	●	●	●	●
Flexibility on contributions	●	●	●	●	●
Tailoring of investments	●	●	●	●	●
Flexibility to take cash out	●	●	●	●	●
Business attractiveness	●	●	●	●	●
Employee recruitment and motivation	●	●	●	●	●
Predictability of cash requirements	●	●	●	●	●
Minimized regulatory burden	●	●	●	●	●
Workforce management flexibility	●	●	●	●	●
Control over timing of contributions	●	●	●	●	●
Investment upside	●	●	●	●	●
Other public policy objectives	●	●	●	●	●
Breadth of availability	●	●	●	●	●
Breadth of actual participation	●	●	●	●	●
Meeting small business needs	●	●	●	●	●
Coverage for surviving spouse	●	●	●	●	●
Minimized cost to PBGC	●	●	●	●	●

Size of circle indicates degree to which public policy objective is met.

- = Poorly met
- = Met to some extent
- = Significantly met
- = Mostly met
- = Well met

Conclusions

A few general conclusions are clear from the table:

Plan designs form a spectrum, with 401(k)'s at one end and traditional DB plans at the other. The order of ranking is quite consistent, with the two DC plan types most closely aligned and the two traditional DB plan types clumping together. The hybrid DB plan falls in the middle, consistent with its attempt to mimic DC plans within a DB format.

Traditional DB plans protect participants better from risks related to uncertainties about savings rates, investment performance, longevity, and other factors than 401(k)'s do.

401(k) plans provide far more participant control and flexibility to make choices than do traditional DB plans, including the flexibility to change jobs and the chance to select the level of exposure to the rewards and risks of the stock market.

Businesses find 401(k)'s more attractive than traditional DB plans. There appears to be a slightly narrower range of differences here, but companies clearly are voting with their feet to move away from traditional DB plans and towards 401(k) plans.

Traditional DB plans are somewhat better at meeting other public policy objectives than are 401(k) plans. However, this category is the most subjective, in terms both of which sub-objectives were chosen and the weighting placed on fairly disparate criteria.

Policy Implications

Policymakers need to know what they want most from pension designs. This should, of course, take into account the other legs of the “retirement stool” — Social Security and private savings, which are not discussed here. “PBG Policy Options: A Comprehensive Listing,” will outline a wide range of policy options for pension policy. Their desirability will depend on the reader’s viewpoints on the issues discussed in this section.

If the priority is protection for retirees, the reader might wish to tilt tax and regulatory incentives towards DB plans. This would require changing the factors that make many businesses eschew DB plans, or taking the radical step of making them mandatory. Alternatively, different priorities would suggest favoring DC plans. These give participants greater control of their own fates and the potential to earn substantially more, at the risk of losing, squandering, or outliving their money.

Many people favor DB plans in some circumstances and DC in others, which brings further conceptual challenges. Who should decide when each is favored: government, business, or employees? If it is the government, what criteria should be used to decide? Finally, are tax and other incentives subtle enough to differentially favor these alternative designs in different circumstances?

What are the purposes of PBGC?

The Employee Retirement Income Security Act of 1973 (ERISA), which established PBGC, lists three purposes for the corporation, all of which relate solely to defined benefit plans:

1. To encourage the continuation and maintenance of voluntary private pension plans for the benefit of their participants.
2. To provide for the timely and uninterrupted payment of pension benefits to participants and beneficiaries
3. To maintain premiums ... at the lowest level consistent with carrying out its obligations.

Still other purposes are explicitly or implicitly stated in provisions of ERISA, or have been advanced since PBGC's foundation by the various members of Congress and the Administration who ultimately set the rules.

There has been a great debate over the years as to whether PBGC is an "insurer" or a "social insurer." This distinction captures much of what is at issue, but we believe it is useful to examine one further level of detail, as well as adding an element or two. The purposes ascribed to PBGC cause it to act in six often-conflicting capacities:

- Insurer
- Subsidizer of defined benefit pension plans
- Instrument of ad hoc federal industrial policy
- Unemployment insurer
- Arm of the government
- Successor trustee of pension funds

Insurer. ERISA mandates that PBGC "shall prescribe such schedules of premium rates ... as may be necessary to provide sufficient revenue to ... carry out its functions." The requirement of self-sufficiency is underlined by the absence of a government guaranty or explicit subsidy. PBGC is very similar to a self-insurance pool, or a mutual insurer, since it covers all pension funds of the types it insures (insurance purchase is mandatory and PBGC is a monopoly provider) and it does not attempt to make a profit. (Purpose 3 of ERISA emphasizes PBGC's non-profit nature.)

Subsidizer of defined benefit pension plans. Consistent with ERISA's first purpose, PBGC was founded to provide a bedrock of confidence in pension plans similar to the comfort the FDIC provides to bank depositors. Unlike the FDIC, it has limited tools to influence those it insures. PBGC is required to insure plans, and charge premiums, with little regard to the creditworthiness of the plan sponsors or the risk in the financial management of the pension trusts. Congress has held average premium levels below those any private insurer would charge (see below), perhaps in order to minimize the pressure on plan sponsors to freeze or terminate their pension plans.

Instrument of ad hoc federal industrial policy. This is, arguably, implicit in PBGC's structure, but Congress has expanded its application. Particular industries and classes of companies are

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favored in three broad ways. First, less-creditworthy firms are strongly favored by a premium structure that charges only modestly higher premiums even for companies near insolvency. These are also the firms most likely to take advantage of the various exceptions that allow avoidance of deficit reduction or other contributions.

Second, the dangerous combination of substantial DB plan underfunding and shaky corporate credit is highly concentrated in a few sectors, generally highly-unionized, old technology, manufacturing industries. Congress and the Administration have aided these industries' finances by designing funding rules with numerous exceptions to the deficit reduction contribution requirements. In theory these exemptions have only been deferrals, but, in practice, risky companies often go bankrupt, leaving PBGC with larger losses to fund. For example, in 2003, PBGC absorbed \$2.2 billion in losses from a US Airways pilots pension plan that had received no contributions for four years.

A study in June 1986 showed that 95% of PBGC's claims from its top 100 losses were for union plans. More updated figures would likely be less dramatic, but still show a substantial majority of losses fell in this category. (As described in "PBGC: A Primer," the structure of the funding rules makes it difficult to avoid underfunding of union plans when pension benefits are periodically raised to keep up with inflation.)

Third, specific industries are sometimes explicitly favored, such as in the proposal in the Conference Committee's version of H.R. 3108 to give airlines and steel companies more time to fund their plans adequately. Earlier, the Pension Protection Act in 1987 gave 5-year transition relief on deficit reduction contribution rules solely to integrated steel companies. The potential cost of targeted relief is illustrated by claims patterns. The steel industry represented 56% of claims from PBGC's start-up through 2002, according to PBGC, while representing only 3% of participants. U.S. Trade Representative Zoellick pointed out in a December 4, 2003 statement on steel tariffs that PBGC had assumed \$8.2 billion from 14 steel producers over the years.

Unemployment insurer. This is not an explicit purpose under ERISA, but that act does implicitly require PBGC to insure shut-down benefits that substantially increase payouts when employees lose their jobs in a factory shutdown. This benefit is rarely funded significantly since it generally is not counted as a liability until at or close to the time of a plant shutdown, which may be followed by insolvency before full funding can be achieved.

Arm of the government. ERISA set PBGC up as a government corporation, with a Board of Directors of three cabinet members. These and other attributes place it under the complex of laws and administrative guidance on government corporations. PBGC's financial management differs dramatically from all non-government insurers. Principally, it does not attempt to hold a cushion of capital, (and in fact is operating with negative capital of \$11.5 billion currently), it invests all premium income in very safe but low-yielding U.S. government securities, and it does not tap outside investors for funds as part of its asset/liability management.

Successor trustee of pension funds of insolvent firms. PBGC becomes responsible for determining and paying benefits to those individuals entitled to them.

Further, a ruling in the Pan Am case, over a year ago, concluded that PBGC takes on the fiduciary obligations of the original trustee of a defined benefit pension plan. This ruling, on

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appeal, could make it more difficult for PBGC to limit benefit payments to those it considered correct under the plan documents and ERISA. This creates potential conflicts between PBGC's duties to the individuals and the need to hold premiums down by paying only what is required.

Conclusions

Trying to meet these six disparate goals at the same time is essentially impossible. One or two goals will always be elevated to be central, with the others acting more as constraints to extreme action than as genuine goals. One might argue that all insurers target multiple goals, often as a result of government mandates. However, insurers generally have clear and stable prioritizations among their goals, usually with the central objective of maximizing profits. PBGC instead confronts changing priorities of Congress and successive Administrations, combined with an absence of explicit prioritization of goals.

PBGC mostly suffers indirectly from the conflicting goals of pension policy. For example, various laws make it very difficult to act as a self-financing insurer. It cannot set its own premiums and the levels chosen for it have consistently been much lower than a private firm would agree to offer. Further, the government periodically uses PBGC as a backstop to contribution deferrals that are effectively loans for certain troubled industries.

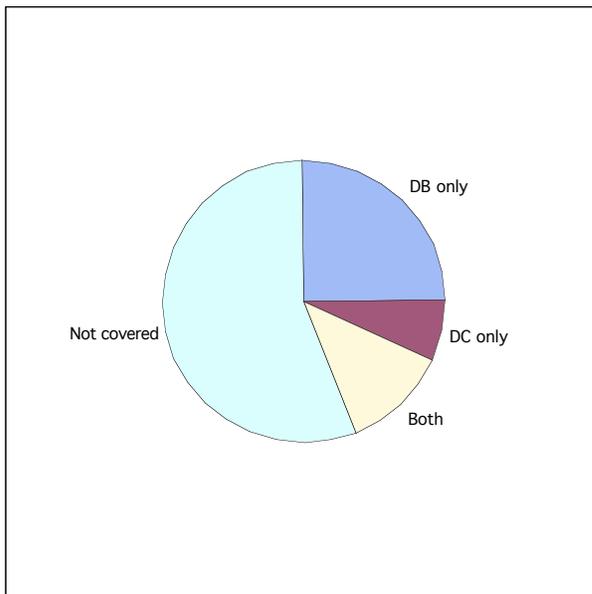
The legal framework, however, also makes it difficult to "encourage the continuation and maintenance of voluntary private pension plans," as ERISA mandates. PBGC's premium structure heavily subsidizes troubled firms with large underfunding by charging well-funded plans at healthy firms far more than their risk would separately justify. Cumbersome funding rules have been added in an attempt to hold this cross-subsidy down to a level that does not endanger the system. The tilt of PBGC premiums and the volatility of contributions thus engendered have been part of the reason for the exodus of firms out of the DB system.

A cynic might suggest that PBGC has functioned most effectively at delivering subsidies to favored industries, admittedly not voluntarily. However, the need to meet other objectives makes the complex of pension laws and PBGC policy badly designed for industrial policy. To start with the obvious, \$8.2 billion of steel industry losses taken over by PBGC have not created a consistently healthy industry. It is also an odd approach to industrial policy to provide significant aid only to firms with a particular type of large liability, pension underfunding in this case. Even in troubled industries, some firms do not have sizeable pension underfunding, yet may arguably be as deeply in need of assistance or as worthy by whatever criteria are being used. Nor is there a method for PBGC to recoup part of its costs by profiting when a deferred pension contribution helps rescue a failing company. Explicit industrial policy, such as the lending activities of the Air Transportation Stabilization Board, generally provides some opportunity for upside benefit to the government.

How have pension plans changed over time?

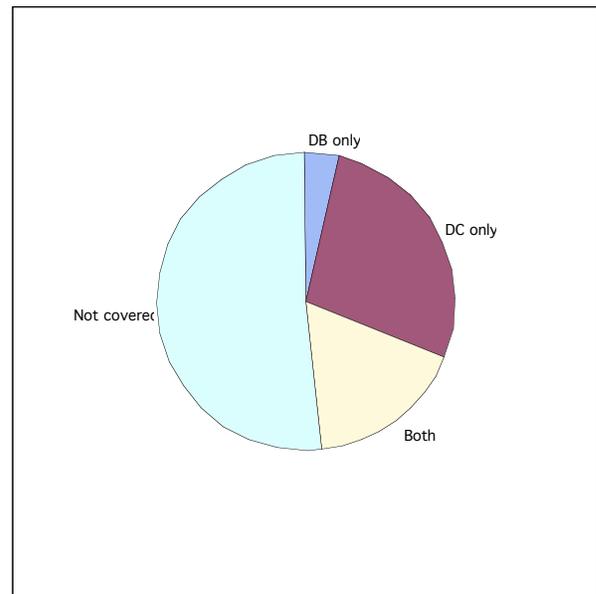
Almost half of American workers in the private sector are covered by a pension plan and the proportion has been fairly stable for some years, see Figures 1 and 2. The Department of Labor (DOL) reports that 48% of the workforce was covered by pensions in 1998, compared to 44% in 1979. (All figures in this section are from Private Pension Plan Bulletin, DOL, unless noted otherwise.) Those in the lowest income levels tend to be least well covered. Only 19% of full- and part-time workers earning less than \$20,000 a year in 1999 were in a pension plan (CWS Survey, DOL, Table 4).

Figure 1: Percentage of Workforce with Plan Coverage, 1979



Source: Private Pension Plan Bulletin, DOL, Table E4a

Figure 2: Percentage of Workforce with Plan Coverage, 1998



Source: Private Pension Plan Bulletin, DOL, Table E4a

The stability in overall private sector coverage rates hides an immense shift in the types of pension plans, also evident in Figures 1 and 2. In 1979, 37% of the labor force was covered by DB plans while only 19% were in DC plans. By 1998, only 21% were in DB plans and fully 44% were in DC plans. Many employees are covered by both types, so the figures add to more than the 48% total coverage level.

The rise of 401(k) plans is even more striking than the decline in DB plans. “Cash or Deferred Arrangements” under section 401(k) of the Internal Revenue Code were first authorized by the Revenue Act of 1978. By 1984, the first year for which there are good figures, 9% of all workers had access to a 401(k) arrangement (Table E23). This figure surged to 34% in 1998. 401(k) arrangements can be incorporated in a range of DC design types, including profit sharing, money purchase, and ESOP. The proportion of such plans that choose to include 401(k) arrangements has grown sharply. 30% of DC participants had access to 401(k) arrangements in 1984. This grew to 78% by 1998.

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The nature of defined benefit plans has also changed. First, as noted above, roughly half now offer lump sum payments as an option and participants overwhelmingly choose that option. Second, the plan design has altered substantially at many companies, moving to a “cash balance” or other hybrid design that mimics many aspects of a DC plan. Watson Wyatt reports that 19% of large firms surveyed had cash balance or other hybrid plans in 2002 (Watson Wyatt, 2002).

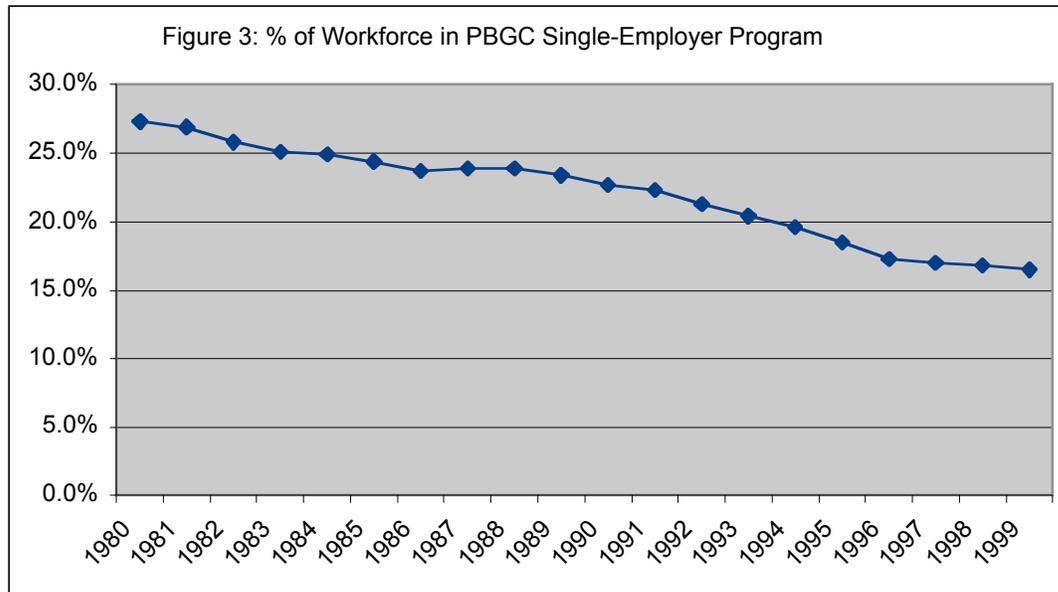
The shift away from DB plans and into DC plans resulted in many plan terminations, although it is difficult to quantify what proportion of terminations were associated with such switches. More recently, freezes, in which plans continue but no one earns benefits for additional service, have been an increasingly common way to transition out of DB plans. There is no comprehensive official data on “freezes” of pension plans, leaving us reliant on survey results from several benefits consulting firms. A survey by Mercer in the summer of 2003 showed that 6% of surveyed sponsors had frozen at least one plan in the previous three years and 13% were “considering” the possibility (Mercer, 2003, p. 6). AON Consulting reported that 2% had frozen plans prior to 2001 and 13% did so from 2001 to 2003 (reported by GAO in a letter dated December 17, 2003, p. 7).

How has PBGC's universe of pension plans changed?

PBGC insures most, but not all, of those in the private sector with DB plans. The trends in PBGC-insured plans therefore mirror to a considerable extent changes in the overall environment. Note that in-depth PBGC data on plan characteristics is generally only available for 1980 through 2000. (Unless otherwise noted, all figures in this section are from PBGC.)

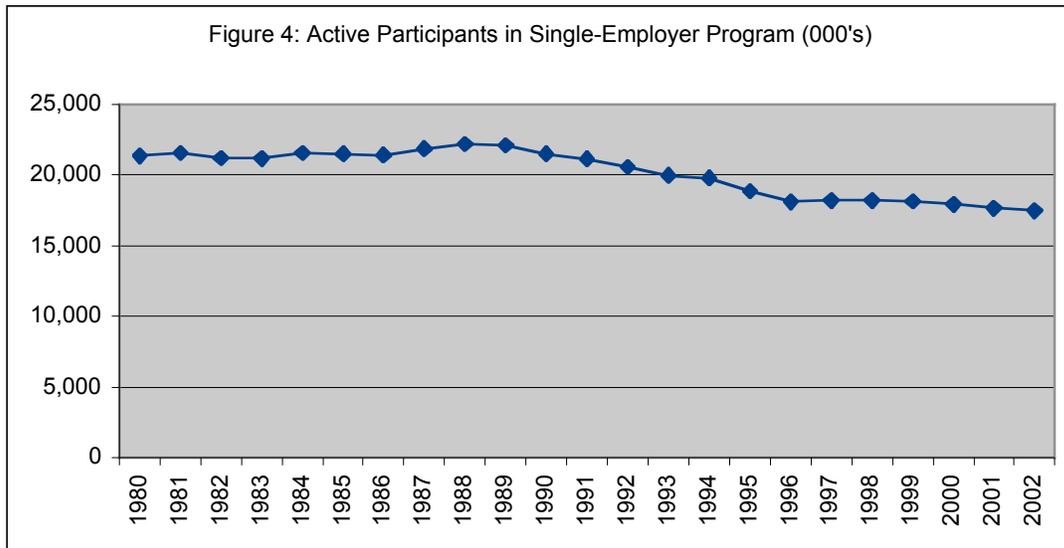
Participant statistics

Figure 3 shows that PBGC-insured single-employer plans covered 16% of the private sector working population in 2000, compared to 27% in 1980. Insured multiemployer plans covered another 4% compared to 8% in 1980.



Source: PBGC Pension Insurance Databook, 2002, Table S19B, and PBGC estimates

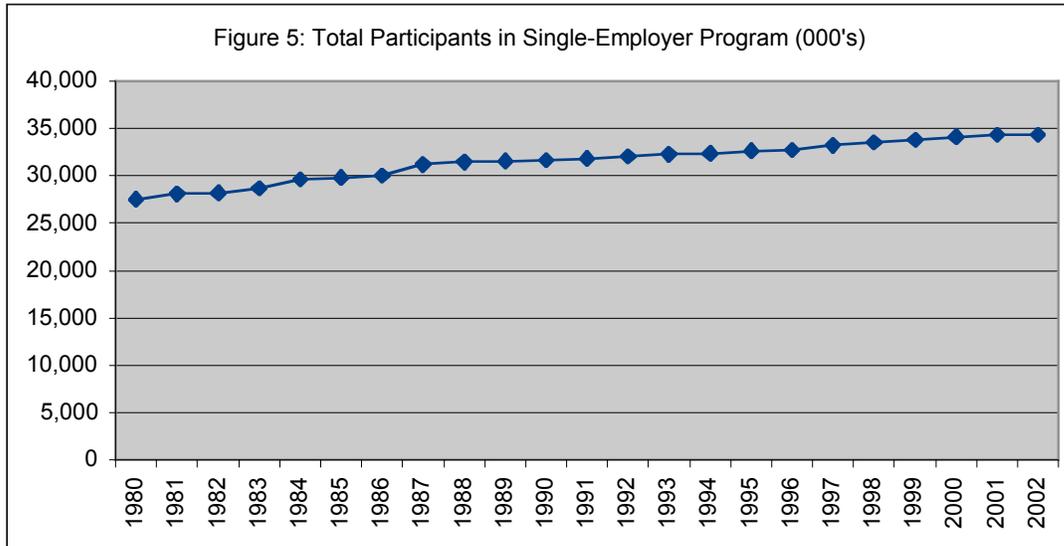
Active employees in the PBGC-insured single-employer plans fell by 16% since 1980, from 21.4 million to 17.9 million in 2000, despite growth in the overall workforce of 41% (through 1999). Note that a major factor behind the absolute decline in active participants is a sharp increase in the number of employees who have left their firms, but are not yet retired. Absent this effect, the number of active employees would have grown 11%. Active employees in PBGC-insured multiemployer plans fell by 24% from 6.1 million in 1980 to 4.7 million in 2000.



Source: PBGC Pension Insurance Databook, 2002, Tables S16 and S19A, and PBGC estimates

Total PBGC-insured participants, including retirees, actually rose, albeit more slowly than the total workforce. (See Figure 5.) Total single-employer participants grew by 25%, from 28 million in 1980 to 34 million in 2002. Multiemployer participants rose by 19% from 8.0 million to 9.5 million.

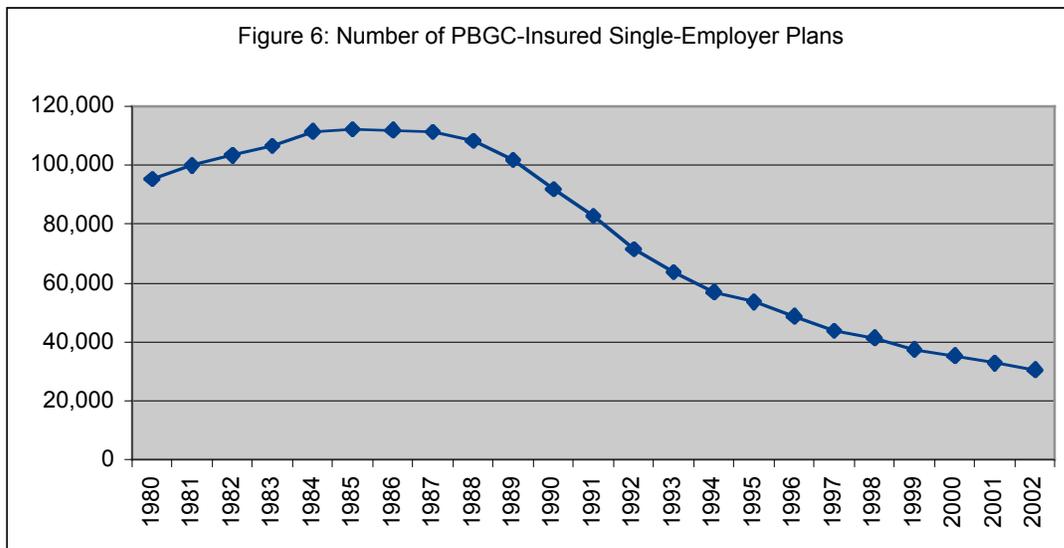
The major reason that the number of active participants fell while total participants rose significantly is the jump in vested, separated employees. These are people who left their firms after having earned pension benefits, but have not yet retired. This figure quadrupled from 6% of the participants in 1980 to 24% in 2000. We do not have statistics on how many vested, separated employees are unemployed. Therefore, we do not know the extent to which this represents industrial decline in traditional manufacturing sectors that offer DB plans, higher job turnover, or other factors.



Source: PBGC Pension Insurance Databook, 2002, Table S16, and PBGC estimates

Plan Statistics

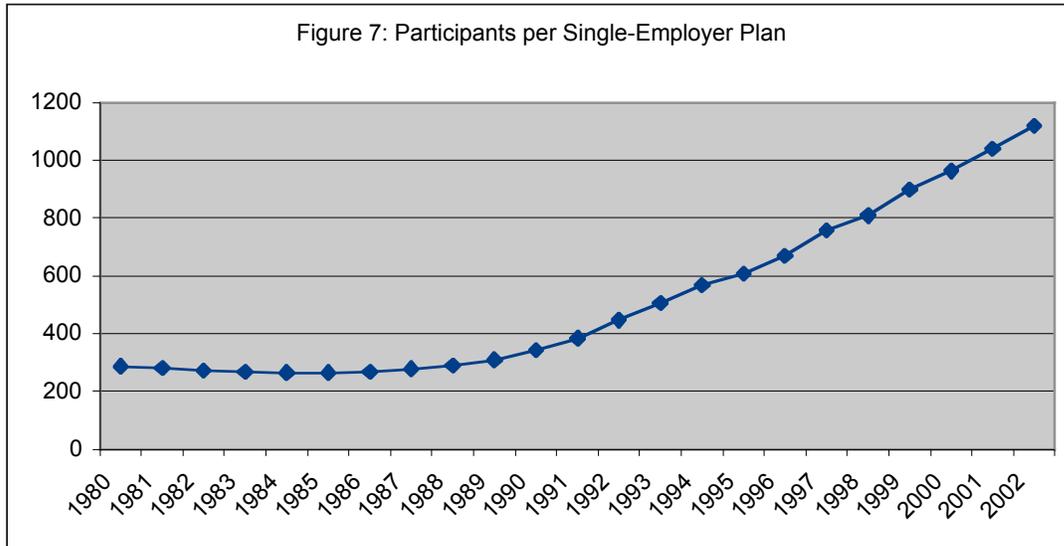
Figure 6 shows that the number of covered single-employer DB plans plummeted by 73% from 112,208 at the peak in 1985 to 30,660 in 2002, as smaller employers exited. For comparison, there were 673,000 single-employer defined contribution plans as of 1998. Multiemployer DB plans dropped 24% in the same period, from 2,188 to 1,661.



Source: PBGC Pension Insurance Databook, 2002, Table S17, and PBGC estimates

As a result, the average size of covered single-employer plans shot up to 1,100 participants in 2002 from 266 participants in 1985. By 2002, less than 3% of participants were in plans with fewer than 250 participants, compared to over 11% in 1985. Average multiemployer plan sizes changed little over the period.

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Source: PBGC Pension Insurance Databook, 2002, Tables S16 and S17, PBGC estimates, and COFFI calculations

Are defined benefit plans on their way to extinction?

Many policy arguments are influenced by an underlying belief about whether DB plans will remain a significant source of retirement income. This paper assumes current law and regulation in describing the prospects. “PBGC Policy Options: A Comprehensive Listing” will include a discussion of legislative options to bolster DB plans.

We are not aware of any researchers who suggest that defined benefit plans will grow significantly. Therefore, the issue is whether there will be a quick exodus by employers or a modest, slow decline, possibly followed by stability. Table 2 lists the arguments laid out in the remainder of this section.

Table 2: Summary of Arguments Supporting Likelihood of Quick or Slow Decline

Arguments for Quick Exodus	Arguments for Slow Decline
<p><i>Structural Weakness Arguments</i></p> <ul style="list-style-type: none"> • Workers undervalue DB plans • Younger workers value them least • Traditional plans penalize job mobility • Many prefer 401(k) choice and flexibility • Administration of DB is burdensome • Contribution needs are volatile • Hybrid plans bear legal and political risk • Traditional industries are declining <p><i>Acceleration Arguments</i></p> <ul style="list-style-type: none"> • Investment boom masked problems • Drop in discount rates raises cost • Political risk has increased • “Death spiral” is theoretically possible 	<p><i>Overall Arguments</i></p> <ul style="list-style-type: none"> • Unions strongly support DB plans • Financial advantages exist for business • Ensured income may become more valued • Halting DB will not erase legacy costs • Terminating DB plans requires funding • Freezing plans leaves exposure for years • PBGC premiums are too small to matter • Decline in “good” plans exaggerated

Arguments Supporting Likelihood of a Quick Exodus

There are essentially two complementary sets of arguments predicting a quick end to DB plans: structural arguments that DB plans are ill suited to the modern workplace and explanations of why the rate of decline might accelerate.

Structural Weakness Arguments

Workers undervalue defined benefits. Managers view pensions as a compensation program, which must justify itself by improving recruitment, retention, or motivation or by substituting for higher pay or other compensation. Unfortunately, many workers do not place a high value on DB plans. Their value is difficult even for experts to determine, since they are based on life

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expectancy, retirement age, how long an employee will remain employed, and other unknowable factors. Plus, workers increasingly distrust promises from companies about future benefits, a trend likely to be heightened by plan freezes at various companies.

Younger workers particularly undervalue the benefits. Younger workers are not focused on retirement income and generally do not expect to remain with a firm long enough to earn pensions. However, they understand 401(k)'s, can see the value build in their accounts, and are able to take the value with them, after a vesting period that is generally shorter than for DB plans.

Traditional defined benefit plans penalize job mobility. DB plans were designed to reward longevity. First, vesting rules require a minimum period of employment before any benefits belong to the employee, often the full five years allowed by law. Second, a final average pay plan for salaried workers compounds the benefits of additional years of service. Not only is another year worth an additional percentage of salary, but the "final average pay" tends to rise at least as fast as inflation as long as the participant remains with the company. For example, holding three 10-years jobs rather than one 30-year job cuts benefits by 23% in one typical case. (See Appendix 1 under "Flexibility to Change Jobs").

Many workers prefer 401(k)'s investment choice and flexibility. A large subset of workers prefer the ability to choose their own investments from a set of options, particularly to choose higher levels of stock market exposure, if they wish. They also prefer the ability to withdraw money far more easily than in DB plans.

Businesses find DB plans expensive to administer. A Hay Huggins survey found that DB plans were 50% more expensive to administer than DC plans in 1991 (as reported in Gebhartsbauer, p. 3.) The cost averaged \$470 per employee and had nearly tripled in 10 years, even adjusting for general inflation.

Firms dislike the volatility of contribution requirements. Financial market volatility creates major swings in legal funding needs from year to year. Total DB contributions for the period from 1990-1993, for example, ranged from \$16 billion to \$45 billion (Private Pension Plan Bulletin, DOL, Table E14). Recent aggregate numbers are not available, but the 2000-2003 period likely had even larger swings. Progressive lowering of the full funding limit exacerbated volatility by making it difficult for companies to contribute more than necessary in order to build a cushion against potential future demands.

Hybrid plans bring political and regulatory risks. Cash balance and other hybrid plans that minimize many of the disadvantages of DB plans to employers are perceived by some plan sponsors as too risky, due to intense political opposition and litigation concerns.

The changing industrial structure of America works against DB plans. The strongest support in the private sector for DB plans comes from the unionized, traditional industries, especially in manufacturing. There is a broad consensus that these sectors will continue to shrink in proportion to the overall economy. There is no current impetus of importance anywhere in the private sector to start up new DB plans.

Acceleration Arguments

Strong investment returns, now vanished, artificially slowed the decline. High returns on investments in the 1990's gave many sponsors the ability to minimize, or even skip, contributions. Accounting results also benefited from exceptionally strong returns, although actuarial rules caused the gain to be spread over time. Pension promises could seem nearly costless. The bursting of the bubble, still being felt because of the use of multi-year averages in various calculations, reversed these pleasant circumstances.

Munnell and Soto calculated that DB plans earned \$1.4 trillion in capital gains on stocks from 1982 to 2000 (p. 5). Total plan assets went from \$444 billion to \$2.1 trillion. The gains allowed contributions to be much less than benefits paid. Over \$111 billion in DB pension benefits were paid in 1998, while contributions were only \$35 billion (Private Pension Plan Bulletin, DOL, Table E14). A Watson Wyatt study of the Fortune 1000 illustrated the rapid swing in fortunes since the bubble burst (Watson Wyatt, July 2003, p. 1). \$16 billion was contributed in 2000, rising to \$44 billion in 2002.

A sharp fall in discount rates in recent years raises the estimated cost of pensions. Interest rate declines led to lower discount rates, which, by definition, raise the estimated present value cost of future payments such as pensions. This was exacerbated by an unusually large decline in the "30-year" treasury rate, resulting from Treasury's decision to buy back existing bonds and eventually to stop issuing them altogether. However, even a proposed move to corporate bond rates still leaves discount rates much lower than those in the 1990's.

Perceived political risk has increased. PBGC's descent into substantial deficits, combined with the increase in aggregate pension underfunding to an estimated \$450 billion, including multiemployer plans (PBGC 2003 Annual Report), has given new impetus to proposals that would raise the perceived cost of providing DB pensions. Uncertainty was aggravated by the failure to agree in a timely manner on permanent rules to replace the obsolete 30-year treasury rate as the discount rate for pension funding and other rules. Even a new temporary fix failed to pass Congress before the previous 2-year fix ended on January 1, 2004. Legal and political controversy around the status of cash balance plans adds to this concern.

Some argue a "death spiral" could set in. If PBGC premiums were raised high enough, it could cause stronger companies to exit from their DB plans. This might cause even higher PBGC premiums for the remaining plans, leading the strongest of those left to depart, and the spiral could continue downward. While theoretically possible, this sequence would require extreme conditions and could be halted by appropriate measures.

Arguments Supporting Likelihood of a Slow Decline or Stabilization

Unions strongly support defined benefit plans. Over a third of active PBGC participants are in collectively bargained plans and 70% of union members are covered by a pension plan, usually DB. Still more are in firms in which management may hesitate to exclude non-union employees from a benefit offered to union workers. Unions show no sign of reducing their support for DB plans.

DB plans have financial advantages for businesses that DC plans do not. Plan sponsors retain some ability to time their cash contributions, taking advantage of funding opportunities and moments when accounting impacts will be most favorable. There was considerable coverage in the business press of the advantages GM obtained recently by borrowing approximately \$14 billion and contributing it to pension funds (GM 2003 Annual Report). Finally, the flexibility to offer “early retirement” plans with enhanced DB payments has been useful for many firms in managing their workforce needs.

Certainty of income may become increasingly valued. Horror stories of retirees outliving their income will almost certainly increase as the population ages. These may reverse the tide of employee preference for DC plans, although the reaction could also manifest itself in an increased tendency to buy annuities with the payouts from DC plans.

Halting DB plans will not erase “legacy costs.” Some firms will hesitate to antagonize their workers and unions by eliminating DB plans when new benefit accruals are a small part of the problem. Each additional year of new benefit accruals represents a relatively small percentage increase in the extremely high accumulated pension and retiree health costs at automakers and other troubled old-line firms. For example, GM has huge legacy costs that burden their continuing operations. (The Detroit Free Press estimated that retiree benefits of all kinds add \$1,360 to the cost of each GM car, versus \$180 for Toyota’s cars manufactured in the U.S.) However, GM’s pension service cost in 2003, representing new benefits earned, was less than 1% of the aggregate value of its pension and retiree health promises accumulated over time (GM 2003 Annual Report).

Terminating a DB plan requires funding. Outright voluntary termination (“standard termination”) of a DB plan requires immediate full funding and use of those funds to buy annuities from an insurer or to make lump sum payments. Firms forfeit the possibility of future investment earnings greater than the quite conservative rate that insurers use in their annuity pricing. Historical investment returns for pension funds considerably exceeded annuity rates, creating a substantial opportunity cost to the exchange of typical pension returns for those of annuities.

Freezing a DB plan does not eliminate exposure. Many of the aspects that firms dislike about DB plans remain for many years after a freeze. Contribution levels, and their attendant volatility, are generally determined more by past promises than new benefit accruals and wind down slowly over time. PBGC premiums would be affected only over many years, since they are based on “participants,” not workers earning new benefits. Similarly, the cost of administration would be only marginally affected initially.

PBGC premiums are only a small portion of pension costs. Premium costs represent less than 1% of total costs at PBGC insured plans. This suggests fear of increased PBGC premiums may not be a major factor in corporate decisions.

Decline in the number of “good” plans may be exaggerated. Mark Iwry, former Benefits Tax Counsel of the Treasury Department, among others, argues that tightened non-discrimination rules and other changes led to a desirable shakeout. He testified on June 4, 2003 that “[a] considerable number of plans were appropriately terminated as a result of the Tax Reform Act of 1986, because they were viewed as abusive or not delivering fair ‘money’s worth’ to the taxpayer.”

Is PBGC’s deficit temporary or a symptom of structural problems?

Some contend that the defined benefit system and PBGC will tend to have apparent “crises” when the business and financial market cycles are unfavorable, followed by an inevitable recovery. These experts point out that in recent years there has been a “perfect storm” of falling stock prices, falling discount rates, and rising corporate bankruptcies. To extend the metaphor, PBGC’s ship will right itself and sail on, once this storm passes.

Others argue that there are structural problems that will repeatedly bring the insurer back to a deficit situation, even if the markets occasionally produce ephemeral surpluses, such as in the late 1990’s. Under current rules, PBGC is like a swimmer heading upstream against a stiff current. Heroic management efforts may succeed for a time and favorable tides in the ever-cyclical financial markets may temporarily offset the current, but the river will win in the end.

Table 3 summarizes the arguments made by each side, which are elaborated in the remainder of this section.

Table 3: Summary of Arguments Supporting Likelihood of PBGC Recovery

Arguments for Automatic Recovery	Arguments for Structural Crisis
<ul style="list-style-type: none"> • Problem is partially a mirage • There is time to wait for a recovery • Discount rates are very low and should rise • Stock prices will recover • Corporate bankruptcies should decline • Structural reforms strengthened PBGC 	<ul style="list-style-type: none"> • PBGC’s insurance is underpriced • PBGC is usually in financial trouble • The deficit has snowballed • Benefit payments are accelerating sharply • Mountain of underfunding threatens PBGC • Markets may not move PBGC way • Demographics will add more problems • Key sectors are long-term risks for PBGC

Arguments Supporting Likelihood of Automatic Recovery

The problem is partly a mirage. Pension contributions have increasingly been dictated by the “deficit reduction contribution” rules (see “PBGC: A Primer”). These rules have used a discount rate based on the artificially depressed, and increasingly hypothetical, 30-year bond rate. Using a different, higher discount rate will reduce the apparent level of underfunding among DB plans.

There is time to wait for a recovery. PBGC can pay its bills for many years, even with its current deficit; it has \$35 billion in assets and paid only \$2.5 billion in pension payments in 2003. There are also premiums coming in, totaling \$973 million in 2003.

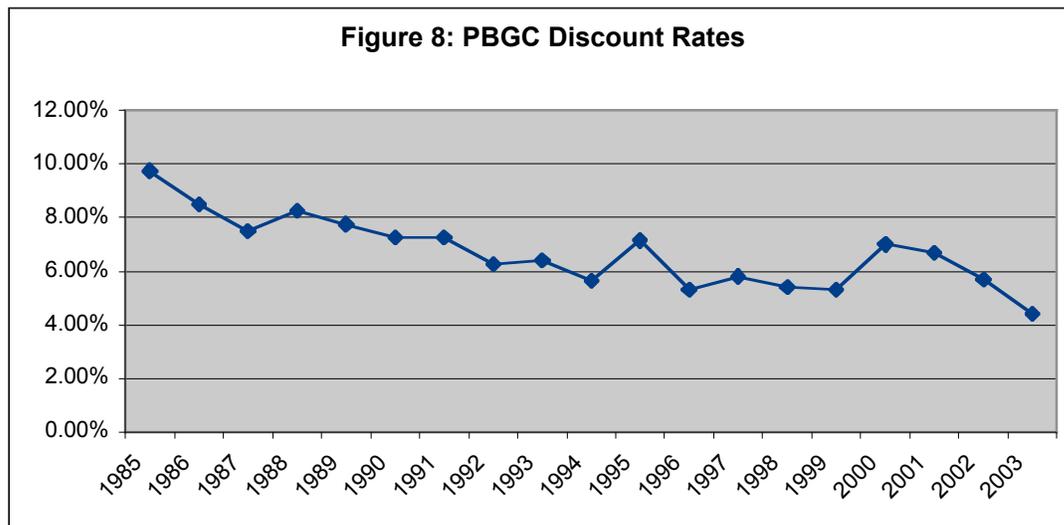
Discount rates have hit a cyclical low and should rise. September 2003’s PBGC discount rate of 4.4% was a drop of more than one-third from the 7.0% rate of September 2000 and was the lowest in history (see Figure 8.) As a result, pension liabilities may have increased by \$471 billion from 2000 to 2003, according to a simple pension model developed by COFFI. (The 38%

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increase in liabilities is close to that predicted by a simple rule of thumb of 15% per point of interest rate change.)

Rising bond values would have partially offset this, since bonds become more valuable as rates fall. However, only 29% of DB pension fund assets are in bonds, according to Greenwich Associates. This asset/liability mismatch generally harms pension funds when rates fall and aids them when rates rise.

PBGC itself registered a \$6.3 billion increase in underfunding due solely to the lower discount rate. Fortunately, interest rates normally increase in an economic recovery, sometimes very substantially, which would fully or partially reverse this effect.



Source: PBGC Pension Insurance Databook 2002, Table S23, and PBGC Annual Reports

Stock prices will recover. Investment losses in DB plans from 2000 to 2003 are of roughly the same size as 2003's total pension underfunding reported by PBGC of \$350 billion for insured single-employer plans (Greenwich Associates survey). One cannot directly match up these two numbers, for a variety of technical reasons, but it is certainly suggestive that the sharp stock market declines explain a great deal of the underfunding. Many argue that shares will bounce back and, of course, they already have come back significantly.

Corporate bankruptcies should decline substantially as the economy recovers. PBGC generally only takes over plans when the sponsors become insolvent and there is substantial underfunding. (Firms with lesser levels of underfunding often maintain their plans through and after bankruptcy.) \$14.7 billion of PBGC's financial deterioration resulted from taking over plans from new bankruptcies in 2002 and 2003. This part of the problem could ease with an improved economy.

Structural reforms have strengthened PBGC. Some argue that much of the Corporation's troubled financial history is less relevant since various reforms have been instituted. Most recently, Congress raised premium levels in 1994 and some maintain that PBGC became more aggressive and effective in negotiating with troubled firms that might produce claims.

Arguments Supporting Existence of Structural, Not Cyclical, Problems

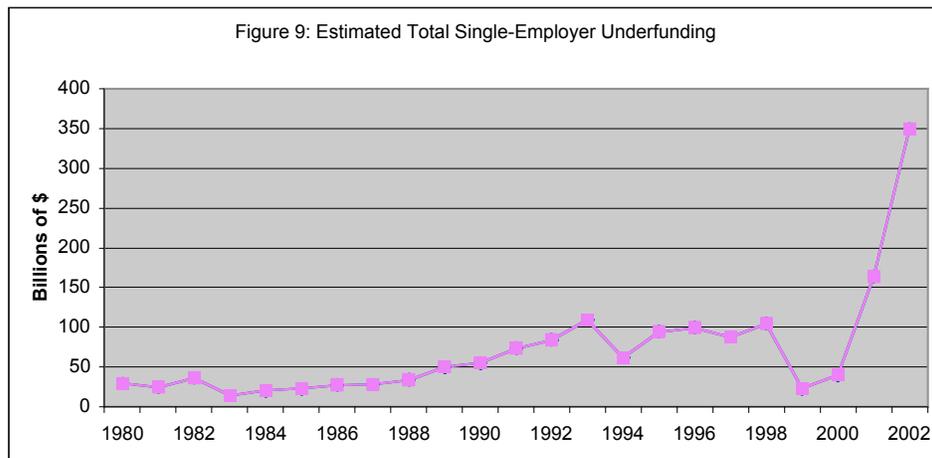
Academic research finds systematic underpricing of PBGC’s insurance. Ippolito and Boyce, in a 2002 research article in *Journal of Risk and Insurance*, presented their finding that PBGC premiums were approximately half the appropriate rate. They cite earlier studies that had suggested the rate was one-sixth the sustainable level. They also point out that changes in the risk profile, such as could be achieved by changes to funding and other rules, could reduce or eliminate the underpricing without premium increases.

PBGC spent most of its life with financial problems. It was in a deficit position in 24 out of 29 years of operation and its net financial position deteriorated in 17 out of 29 years. All of the years of surplus were in the financial bubble of the 1990’s, starting with PBGC’s first-ever surplus in March 1997.

The problems have snowballed recently. The current deficit of \$11.5 billion is the worst in history, far worse than in the harsh recession of the early 1990’s. \$14.7 billion of losses from new terminations in 2002 and 2003 considerably exceeds the peak of approximately \$2 billion in 1990 and 1991 combined.

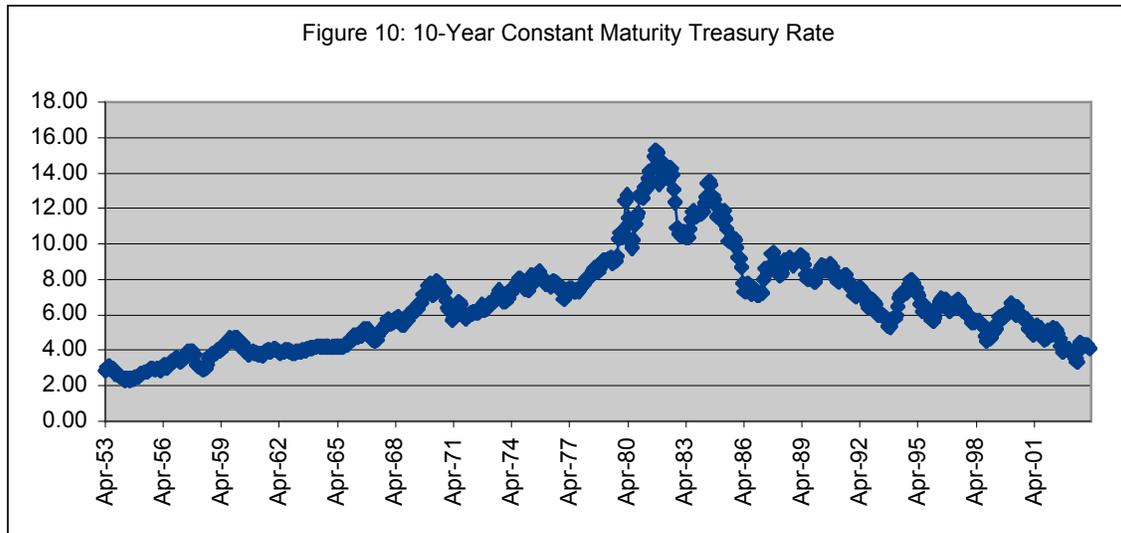
PBGC benefit payments are sharply accelerating. Payouts rose from \$1.0 billion in 2001 to \$1.5 billion in 2002 and \$2.5 billion in 2003. These numbers are likely to rise for some time, as additional participants retire. New plan takeovers would increase this still further.

Worse yet, a mountain of potential underfunding threatens PBGC. Pension underfunding at PBGC-covered plans grew to over \$350 billion in 2003 for the single-employer program and roughly \$100 billion for the multiemployer program. The corporation estimated there is over \$83 billion of underfunding at “reasonably possible” insolvencies as of December 2002. The previous record high of estimated underfunding at such firms was \$35 billion in 2001. The extent to which firms are underfunded is emphasized by a survey (Watson Wyatt, Sept. 2003, p. 1). Less than 30% of the largest firms were underfunded in 1999, but over 90% were by 2002. Mean funding levels fell from 16% overfunded to 25% underfunded. These figures are on a GAAP basis, which is not identical to the calculations for legal funding requirements, but generally moves in parallel.



Source: PBGC

Financial markets are not certain to move in PBGC's direction. Interest rates have been in a long-term decline since the early 1980's. It could be dangerous to assume rates have hit bottom and will rebound. It may be that the period of accelerating inflation induced by the mode of financing the Vietnam War and the oil shocks of 1973 and 1979 was an exceptional period that will not affect future interest rates. Wary investors demanded high interest rates to compensate for inflation risk well into the 1990's, but may now be more relaxed. The average rate for the 10-year Treasury bond (the longest maturity bond for much of the post-war period) was 4.08% in early March of 2004. This rate is low by recent standards, but is almost identical to the 4.09% average for the 1950's and 1960's (St. Louis Fed.).



Source: Federal Reserve Board of St. Louis

Further, the current rebound in the stock market is shadowed by strong concerns about over-valuation, with a 23 price/earnings ratios for the S&P 500 running roughly 50% higher than the average of 15 since 1935 (the first date for which the data is available.)

Demographics may add to future underfunding. The aging of the workforce increases future benefit accruals in final average pay plans, where benefits rise most quickly for older workers. It is difficult to fully prefund this under the complex legal rules regarding required and maximum funding limits.

Steel, airline, and auto industries represent major long-term risks to PBGC. Large, unionized, manufacturing and transport firms remain in precarious positions. Few experts believe that the current economic recovery will permanently change this.

Would tougher funding requirements cost jobs?

Opponents of tougher funding requirements often argue that such changes would cause job losses. Companies would divert into their pension funds cash that would otherwise be used to strengthen the business prospects of the firm, presumably preserving or increasing employment. This case is made with particular force in regard to firms that would have difficulty raising funds and might be pushed into insolvency.

Newsweek printed an article on October 6, 2003 about the problems at Delphi, an auto parts manufacturer. The company's pension plans were \$4.1 billion underfunded, resulting in a 58% funding ratio, even though it had been fully funded a few years earlier. It now pours \$600 million a year of cash flow into pension contributions, or half its cash flow. Delphi argues that this makes it difficult to compete and avoid layoffs, much less start new hiring.

Proponents of tighter funding rules counter that tightening would bring about a healthy reallocation of funds in the economy. In addition to providing greater benefit security for employees and retirees, the higher contributions to pension funds would be recycled, as pension trusts invest in stocks and bonds. Firms across the economy would benefit from slightly lower interest rates and slightly higher stock prices, increasing the overall rate of investment by the average firm. Even a small benefit to the average firm would be a large benefit to the economy as a whole.

Appendix I

More Detailed Explanation of Choices on Table 1

Participant protection

Automatic savings

An “automatic” savings mechanism mitigates the problem that many people do not voluntarily save sufficient funds for retirement. The focus here is on the automatic nature, not who formally pays. Academics agree that employees basically pay for pension savings, whether they make explicit contributions or accept a compensation package with lower wages than they would otherwise receive. (The trade-off is complex and not perfect, but the generalization is valid for our purposes.)

Employees automatically earn additional retirement benefits each year under DB plans of all types, unless an employer takes the fairly drastic step of freezing or terminating a plan. Such retirement savings tend to be substantial. Calculations by Munnell and Soto indicate employer contributions would have been 10% of payroll in the 1990’s, excluding the effects of contribution holidays based on bull market investment gains and changes in the “full funding limits” (p. 7). A typical Non-401(k) DC plan operates similarly, although it may be a little easier to reduce future contributions than in a DB plan.

401(k) plans rely heavily on employees to save voluntarily, with most employer contributions going in as “matches.” Although the savings are not automatic, matches do motivate voluntary savings. As GAO indicated in a summary of research, “several [researchers] have found evidence that employer matching of employee contributions increases participation in 401(k) plans” (GAO, 1996, p. 22).

It is worth noting that, as of 1992, workers contributing to 401(k)’s put aside an average of 7% of their salaries in pension savings and received a match of 5% from their employers (GAO, 1996 pp. 22-24).

Investment risk

Much of the retirement savings built up in a pension plan results from investment income. The plan types differ sharply on who bears the risk of inadequate investment returns. However, they are consistent in awarding potential excess investment gains to whoever bears the risk of unexpected losses.

Participants have no investment risk in a traditional DB plan, since the promised pension payments are determined without regard to investment returns, leaving employers with the risk. (Employers can also benefit through lower contributions if investment returns exceed expectations.) Payment of a lump sum switches investment risk and return to the participant at the point of departure from the company. The DC plans allocate all investment risk and return to

the participants. This investment risk can be broken into two components: market risk and investment skill risk. The latter depends on the individual ability of the participants. There is a great deal of anecdotal evidence that individuals are worse investors than the “smart money,” but we are unaware of any definitive studies showing that this translates into systematic underperformance versus professional managers.

There is one area where DC plans may encourage extra risk-taking. Sometimes firms strongly encourage ownership of company stock. The alignment of employee and corporate interests might be worthwhile for a business or for the nation, but it clearly increases concentrated risk on the part of the participant. If a company suffers greatly, an employee may lose his or her job and retirement savings simultaneously, as happened to the employees of Enron.

Longevity risk

One of the greatest risks in retirement is outliving one’s savings, since individual lifespans are highly variable and unpredictable. (Robert Henrikson of MetLife has testified that remaining life expectancy for one who has reached age 65 is “close to a sweepstakes in which you pick a number between 1 and 40” years. (p. 16)) Retirees can protect themselves by buying annuities that will pay them every month of their remaining lives. The risk reduction benefits from annuities are potentially very valuable. Mercer estimates that “longevity pooling” can increase the value of retirement income by 15-35% of the present value (McCaw, 2004, p. 5).

However, very few retirees use lump sum distributions to buy annuities. There are many reasons for this, including: lack of knowledge, a roughly 15% pricing premium for someone with average life expectancy, and lack of inflation protection. (See Brown and Warshawsky, for an excellent discussion of this complex topic).

Only the traditional DB plan makes monthly payments for a retiree’s life and, often, at a reduced level for that of a surviving spouse. The other four types of plans provide participants with cash for them to use as they choose.

“Spendthrift” risk

Even economists recognize that not everyone acts rationally about money. Allowing participants access to the value of their pension savings brings a risk that they will squander the funds. Of course, most people are likely to use the money in a sensible manner. A study by EBRI indicates that only 12% of recipients of lump sums used any of the cash for consumption (EBRI Issue Brief, August 2000).

Traditional DB plans lock away retirement savings that are then doled out in monthly payments. Plans with lump sum options prohibit spending the account balances during employment, but lose that protection on retirement. DC plans allow withdrawals during employment under certain conditions, as well as borrowing against account balances in many cases. They virtually always allow withdrawals after departure from the company.

Transparency

Participants are more likely to make optimum employment and savings decisions if they understand their pension plans. They are also more likely to value the plans.

Traditional DB pension promises are arcane and ill understood by participants. This reflects an underlying reality, not just an educational issue. The true value to an employee depends on many unknowns, including: the number of years of future employment with the firm, lifespan in retirement, marital status and spouse's lifespan, future pay levels, and the company's future choices about continuation of the plan. Hybrid plans are somewhat clearer, but DC plans truly shine in this area. It is easy to understand an account that earns returns and belongs to the employee upon departure from the firm. Further, balances usually can be checked easily.

Funding risk

Companies that promise benefits may not always put in the necessary funds to back up the promise, which leads to problems if they enter bankruptcy.

All pension plan types are fairly well protected against a failure of the plan sponsor to fund their benefits. PBGC provides insurance against DB defaults, although the protection is capped and employees also lose out on the considerable benefit of future wage increases in final average pay plans. DC plans generally fund their contributions quickly and do not make promises as to future benefit levels. However, there are some instances where a round of contributions has not been made when promised before a company entered bankruptcy.

Participant control

Flexibility to change jobs

Traditional pensions were designed to reward longevity, in an economic environment where there was an expectation of long-term service in a main job. The other side of the coin is that job hoppers are penalized relative to employees with long tenures.

Traditional DB plans for salaried employees generally use a "final average pay" formula that multiplies years of service by a percentage of the participant's average salary for their final three or five years. This level usually rises by at least the inflation rate while someone is employed, but stops growing when he or she leaves. Someone who holds three jobs for 10 years each at various employers will receive a pension 23% less than one who stays at the same job for 30 years (assuming 3% wage growth rate and a three year final average.) The other three plan types do not use final average pay formulas and therefore do not penalize job changing in this manner. However, all plan types allow vesting requirements for employer contributions. It can take five years to vest in many DB plans, while DC plans tend to use shorter vesting schedules.

Flexibility on contributions

Some plans allow employees to determine the level of contribution made on their behalf, within certain limits.

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In DB plans, the employer's pension promise is unrelated to contributions or other choices made by employees. Further, DB plans seldom allow direct employee contributions. Therefore, employees have little or no flexibility individually, although unions can negotiate for them collectively. Non-401(k) DC plans typically follow the DB pattern in this area. However, 401(k) plans allow employees to contribute out of their paychecks, often within a quite wide range. Further, the bulk of employer contributions are in the form of a matching contribution based on the amount put aside by the employee. As of 1992, workers with 401(k)'s contributed an average of 7% of their salary and received an additional 5% as a match from their employers (GAO, 1996, pp. 22-24). The 7% average varied from 4% for those with low incomes to 8% for higher-earning workers.

Tailoring of investments

Some plans allow participants to customize the investments in their pension plans to reflect their individual financial circumstances, view of risk, and thoughts on the financial markets. They may feel, for example, that putting contributions largely into stocks will maximize their long-term savings, and they may be comfortable with the risk. This variety in investment choices produces a wider range of results. Some participants will find themselves better prepared for retirement as a result, while others will have managed their investments badly or been unlucky.

401(k) plans and some Non-401(k) DC plans allow participants to decide where their money is invested, within a range of choices. They are allowed to move money between investments in their account, sometimes as often as daily. No DB plan allows participants to choose, since they do not have their own investments, rather they receive a benefit promise from their employer.

Flexibility to take cash out

Some plans allow participants to access pension money more easily than others. This provides flexibility, and may overcome obstacles to making contributions in the first place, but also opens up the opportunity to squander retirement savings.

Traditional DB plans offer no direct opportunity to access pension funds, other than receipt of the monthly pension. (An individual may be able to borrow from an outside source on the basis of the pension, but this will seldom be easy.) Adding a lump sum option allows access at time of departure from the firm. DC plans allow withdrawals under certain circumstances, borrowing under many circumstances, and unlimited withdrawal after departure from the firm. (Income and excise taxes will limit the attractiveness of withdrawals in some cases.)

Business attractiveness

Employee recruitment, motivation, and retention

Academic studies show that offering a pension plan makes it easier to recruit and keep employees (Ippolito, 1991; Allen, Clark, and McDermed, 1993; Gustman and Steinmeier, 1993). However, there is a much greater demand in today's job market for certain types of pension plans.

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Companies consistently report that the average employee is considerably more interested in a 401(k) plan than in a traditional DB plan, unless they are near to retirement age. This appears to result from both real and perceived uncertainties that are not present with DC plans. DB plans with a “final average pay” formula bring a great deal of uncertainty, since length of employment, lifespans, and the level of future wages are key variables and are unknown. Further, employers are increasingly likely to freeze benefits at some point, depriving employees of the benefit to their pensions from future wage increases. Beyond this, DB plans are complex and difficult to understand. Combine this with the absence of an individual account balance and it is easy to see why employees generally undervalue these programs. DC plans are relatively easy to understand and are perceived as a positive by most employees.

Predictability of cash requirements

Employers prefer to know, and ideally control, the level of cash they will need to contribute to their pension plans.

Businesses far prefer DC plans on this score. Their cash needs are known once they determine a year’s contributions and funding follows relatively soon thereafter. DB plans require a much longer commitment. The benefits granted in a given year are themselves unknown, since companies have only estimates of the future longevity and job tenure of their employees. Further, the contribution needed today depends heavily on future investment returns. Even a contribution that seems adequate today may prove to require topping up later. Finally, the government’s funding mandates are complex and change over time. There is at least a theoretical possibility that a larger contribution will be required legally than will actually be needed economically.

Regulatory burden

All pension plans bring a significant regulatory burden. The government wishes to ensure that employees are treated fairly and that the tax expenditure associated with supporting pensions is not wasted. (The Treasury Department has estimated the cost of DB and DC plans at \$192 billion in present value annually.) Further, the government has a host of overlapping and partially conflicting policy objectives that produce complex rules.

DB plans appear to bring a greater regulatory burden than DC plans. For example, a study by Hay Huggins estimated that DB plans were 50% more costly to administer in 1991 than DC plans. (Reported in Gebhartsbauer, p. 3.)

Workforce management

Some plans allow firms to influence the size and demographics of their workforce, in particular by encouraging early retirement.

Traditional DB plans are generally designed to encourage long tenure with the employer, until early retirement age. Final average pay plans encourage workers to stay until retirement age, by incrementing their pensions both by credit for additional service and by a (normally) higher average pay level. At the end of an employee’s career, traditional DB plans almost always

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subsidize early retirement. As a general matter, they do not reduce monthly pensions taken by early retirees by as much as actuaries calculate would be necessary to offset the additional years of pension payments. Further, companies have opened “early retirement” windows where, for a limited time, they have credited those who take early retirement with additional years of service or a higher percentage of pay than the formulas normally give. DC plans are not used in any of these ways.

Control over timing of contributions

This is a partial offset to the issue of predictability of cash requirements. DB plan types allow companies to defer or accelerate contributions, within limits.

DB plans operate under rules that determine annual funding requirements within a range that can be quite broad, depending on specifics of company circumstances and past contributions. Companies may be able to accelerate contributions, and the attendant tax deductions, or to defer contributions as a cheap source of “borrowing.” DC plans have no such option.

Investment upside

This is another partial offset to the issue of predictability of cash requirements. DB plans give companies the upside from good investment performance.

DB plans are consistent in their placement of investment risk and reward. Companies bear the risk of poor investment performance, but gain the benefit of good returns. Until the 1980’s, companies could directly benefit by returning excess funds from their pension plans to the corporate treasury. This has effectively been taxed out of existence as an option by prohibitive excise taxes. However, increased pension asset values due to high investment earnings do allow corporations to diminish or eliminate their future pension contributions. If the excess is more extreme, they can raise pension benefits and implicitly or explicitly trade this off against lower cash compensation. It is difficult to verify, but it appears that a significant number of companies value their control of a large investment pool. DC plans leave the investment risk and return with the participants.

National retirement policy objectives

Breadth of availability

Employers who offer pension plans are allowed to exclude employees based on certain criteria.

“DB plans and [Non-401(k) DC plans] generally cover almost all employees of an employer, whereas 401(k)’s generally cover only two-thirds,” according to Ron Gebhartsbauer of the American Academy of Actuaries (Gebhartsbauer, p. 1). All pension plans may choose which business units participate and may exclude part-time workers and those with less than a year of service. However, there are non-discrimination rules intended to ensure that these criteria are not used to tilt benefits excessively in the direction of the highly-paid. The net effect of the different

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rules is to cause DB plans to include a high percentage of employees, but to allow DC plans to be somewhat more selective.

Breadth of actual participation

Not every employee who can participate in a pension plan does so.

For DB plans, availability and participation are identical, since employees make no choices about participation. Non-401(k) DC plans are similar, although there may be additional voluntary contributions whose amounts will vary. 401(k) plans do not require participation and the amount of contributions varies greatly among those who do choose to contribute. For example, as noted earlier, lower-earning workers contributed an average of 4% of their (lower) salaries while higher-earning workers contributed 8% (GAO, 1996, p. 23). An EBRI study indicated that roughly two-thirds of employees eligible to participate in a 401(k) plan actually did so (as reported in GAO, 1996, (p. 22)).

There is evidence from limited experimentation that an “opt out” arrangement can improve participation rates. Under this approach, an employee is automatically enrolled to contribute to a 401(k) plan, unless he or she actively chooses not to participate. The signalling of a different expectation of reasonable behavior, coupled with the power of inertia, seems to increase participation rates

Meeting small business needs

Small businesses find it hard to handle the administrative work and financial uncertainty of running a pension plan.

Small businesses have abandoned DB plans in droves. By 2002, less than 3% of participants in PBGC-insured DB plans were in plans with fewer than 250 participants, compared to over 11% in 1985. DB plans are more administratively complex, and expensive, and these costs have grown sharply over time. The Hay Huggins study described earlier found that the costs of administering DB plans had grown from \$180 per employee in 1981 to \$470 ten years later, (both figures in 1990 dollars.) There is also a fear of being hit with fines and bad publicity as a result of errors in administering the complex rules.

Initially, these disadvantages were substantially offset by the advantage to the owners of an excellent tax shelter as long as they provided some benefits to their other employees. Tighter non-discrimination rules have made this tax shelter less attractive, as more has to be spent on other employees.

DC plans are not easy to administer, but they remain considerably simpler for a small business than a DB plan.

Coverage for surviving spouse

A bedrock of public policy in the retirement arena has been the desire to maintain pension income for widows and widowers of retirees.

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Only the traditional DB format maintains this advantage. Lump sum payments and withdrawals of account balances can reduce this protection. Participants receiving lump sums can create similar protection by buying annuities with survivor rights or by purchasing life insurance, however it appears that few do this.

Cost to PBGC

The government would like to keep the Pension Benefit Guaranty Corporation (PBGC) in good financial condition. Large losses could prompt either an eventual government bailout or the need to increase premiums to the point where healthy pension plan sponsors would flee the system.

All insured DB plans carry risk for PBGC, in that they could theoretically become insolvent at some point when their pensions were also less than fully funded. (In practice, the risk is concentrated in a relatively small group of financially weak firms.) DC plans are not covered by PBGC insurance and therefore do not present such risk.

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