

Defined benefit plans: A brief history

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Throughout their history, corporate defined benefit (DB) plans have evolved to meet the shifting demands of employers, legislators, and participants. Their popularity began slowly in the late 1800s, then rose rapidly in the 1940s and 1950s, before gradually fading in favor of defined contribution (DC) plans. Corporate DB plans presently account for over \$3 trillion in retirement assets covering nearly 40 million current and former U.S. workers.¹ The DB plan story has many key moments and messages including:

1. Early pension schemes were insecure and often discriminatory toward rank-and-file workers, which led to significant pension legislation, in particular the Employee Retirement Income Security Act (ERISA) in 1974.
2. While improving benefit security and benefit fairness, legislation such as ERISA, and later the Pension Protection Act (PPA) in 2006, made DC plans more attractive to sponsors than DB plans in some ways.
3. The private sector DB system continues to evolve, with today's focus on risk management strategies such as liability-driven investing (LDI), risk transfer, and hybrid plan designs.

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In the minds of many, corporate defined benefit (DB) plans are on their way to being part of history. This sentiment has some merit – for every active participant in a corporate DB plan, there are now nearly five active DC plan participants. For every dollar paid into a DB plan, three-plus dollars are paid into a DC plan. And while more than half of all private sector employees have access to a DC plan, only about 14% participate in a DB plan. However, this was not always so.²

Before the sharp rise in DC plan participation, DB plans were the retirement benefit of choice, covering almost half of the private sector workforce in the U.S. Designed to replace a significant portion of employee salary in retirement, DB plans encouraged and rewarded loyalty to employers. About 170,000 qualified DB plans existed just 30 years ago. Over time, however, the plans became less attractive to many companies, and trends toward closing, freezing or terminating DB plans began. New laws and regulations reduced incentives of plan sponsorship, which curtailed new plan creation. This trending away from DB continues to this day.³

Still, despite this shift, more than 40,000 DB plans are in force today, covering nearly 40 million current and former workers. Assets invested in DB plans have never been higher; their value topped \$3.1 trillion in 2014, having more than tripled over the past 25 years. The majority of existing plans are open to new employees and provide new benefit accruals. While the DB “boom” may have occurred one or two generations ago, these plans still maintain a significant foothold in the U.S. economy.^{4 5}

Companies that still sponsor DB plans do, however, face numerous challenges. Navigating through reams of ever-changing laws, regulations, and accounting standards has been no simple task. The two recessions of the 2000s, combined with newly coined funding and accounting standards, forever shifted sponsors’ perceptions of DB plans – away from assessing the benefits they provide for the corporation, and toward looking at the corporate risks they present. Managing contribution volatility and balance sheet volatility, both of which are tied to liabilities, is now considered a paramount investment objective. This is a significant change from the “asset-only” world of a few decades ago, where a DB plan’s funded status was more of an afterthought in investment strategy.

At the same time, non-corporate plans (which are not the primary focus of this paper) have paved their own course. Unlike corporate plans, where DB plan coverage is under 20% of the workforce, over 80% of state and local government employees have access to DB plan benefits, and these public plans have accumulated nearly \$5 trillion in assets. Public plans have their own host of challenges, though. While coverage is high, funding of these plans is generally poor, and employees of bankrupt government entities are quickly learning that their benefits are not necessarily secure.^{6 7}

Sponsors may wonder how we got to where we are, and what lessons we can learn from past events’ shaping of private sector DB plans. This paper attempts to provide perspective on sponsors’ DB investment and funding decisions by describing the evolution of DB plans over time – the market conditions that affected them, the legislation that altered them and present-day innovations that adapt to them.

Pre-ERISA: The beginning, the rise and the challenges of DB retirement plans

The narrative of private sector U.S. DB plans begins in the second half of the 19th century, when most American companies were small operations, and the economy was mostly agrarian. American Express, at the time a growing railroad/freighter company interested in creating a long-term workforce, established the first plan in 1875. Other railroad companies began opening plans soon thereafter, with large utility and banking companies following suit over the next few decades. Manufacturing firms and unions came next, as their industries developed in the early 20th century. By 1925, more than 400 plans existed in the U.S., and about 4 million workers – around 10% of the working population – participated in DB plans.^{8 9 10}

Pension plans in the early 1900s were different from those today. While companies received some tax benefits for contributing to their DB plans, the vast majority of participating employees never worked the 20 to 25 years required (on average) to qualify for benefits. Even if they did, employers maintained the unilateral right to strip pensions away. The plans were often poorly funded, plan assets were insecure and poorly managed, and meaningful government oversight was lacking. Employers commonly invested the assets entirely in their own company stock. In addition, by today’s standards, benefits were quite discriminatory, heavily favoring senior-level employees and often excluding rank-and-file employees altogether.^{11 12}

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American Express established the first plan in 1875

Not surprisingly, during the Great Depression of the 1930s, very few companies started new DB plans, and the economic turmoil of the time led to the failure of about 20% of the existing plans. No government backstop for pensions existed during the Depression, and thus most of the pension benefits workers had accrued in the failed plans were lost forever. Amidst heightened concern for the economic security of the elderly, Congress enacted the Social Security Act of 1935, which established a retirement benefit to prevent poverty for the aged. Not overly generous, Congress intended Social Security to be a “floor of protection,” and did not intend it to be a sole retirement income vehicle. They expected that private sector companies would help fill the retirement income gap over time. Eventually, many did just that.^{13 14}

The first major rise in DB plan sponsorship began in the 1940s and 1950s. Pension coverage (percentage of private sector workers participating in DB plans) increased from 15% to 25%, and plan contributions tripled in the 1940s alone.^{15 16}

Major societal events and conditions drove this historic development. Following the Great Depression, in the years bracketing the U.S. involvement in World War II (WWII) and the Korean War, corporate tax rates were high – much higher than pre-Depression and Depression-era rates had been. In the 1920s, top-tier standard corporate tax rates ranged from 10% to 14%. They stayed relatively stable during the Depression, even as personal income tax rates did not, and began to climb in the years closely preceding the U.S. entry into WWII. By 1941, rates had reached 31%; a year later, 40%; and by 1952, the corporate tax rate was 52%. The acceleration of rates was a prime catalyst in the evolution of DB retirement plans: Employers’ contributions were tax-deductible, and that made the effective cost of funding a plan relatively low.^{17 18}

In short, employers began to take advantage of pensions as a means of tax avoidance. This practice eventually led the federal government to impose requirements on “qualified” plans – plans whose sponsors could take tax deductions for their contributions. The Congress introduced the requirement that qualified plans pass certain coverage thresholds to avoid discrimination against lower-paid employees. These laws were precursors of the more stringent requirements that came later, and they would help to increase overall DB coverage significantly.¹⁹

Second, the Wage Stabilization Act of 1942 (established to control inflation during WWII) limited the salaries employers could offer. In the competitive post-war economy, labor was in high demand, and employers took advantage of pensions not being considered “wages” under this program, by using the promise of post-retirement income to negotiate beyond wage limits. Offering a DB benefit to new employees gave some companies a way to more effectively attract and reward their workforce.²⁰

Finally, union demand for pension plans helped spawn significant DB growth. In the 1920s and early 1930s, union leaders had hoped for a government program to meet the retirement income needs of union laborers. When the Social Security Act of 1935 fell short of their objectives, they began fighting for employer-sponsored pension arrangements to fill the gap. In 1948, a National Labor Relations Board decision set the stage for a boom in private sector pension plans. The decision allowed pension benefits to be part of union negotiations and prevented sponsors from changing or terminating plans without the union’s consent. Many companies could not ignore union demands, given that more than 25% of workers in the private sector were labor union members at the time.²¹

The economic inertia of the 1940s continued into the 1950s, and with the continued limits on wages, pension coverage increased from 25% to 41% of the private sector workforce. Pension assets had increased from \$2.4 billion to \$57 billion in just 20 years’ time. General Motors, eventually the sponsor of the largest private sector pension plans in U.S. history, enacted its main plan in 1950.^{22 23}

While there were marked differences in plan coverage from the 1920s and 1930s to the 1940s and 1950s, there was still little legislation to safeguard pension benefits. With the federal and state governments offering only modest direction or oversight, some plan sponsors mismanaged or abused pension agreements. Many pension funds were poorly funded, and vesting in benefits still took decades (up to 30 years); embezzlement of plan assets was not uncommon.²⁴

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Congress passed a few pieces of legislation in the 1950s and 1960s to try to address these deficiencies, particularly targeting disclosure requirements. Unfortunately, the new laws did little to solve the underlying management and oversight problems plaguing DB plans. However, the laws did begin to raise employee awareness of the plans' faults, particularly in terms of eligibility and the poorly funded positions of some plans.²⁵

The concerns about benefits security and plan management met with harsh reality in 1963 when the Studebaker Corporation closed its South Bend, Indiana, plant. The company had been partially funding its DB plan, but at the time of the closure, plan assets were not nearly sufficient to making good on Studebaker's promises for accrued pension benefits. As a result, thousands of vested Studebaker employees received just a small portion of benefits earned, and many others received nothing. The ripple effects in the pension world began immediately.²⁶

For the next 11 years, innumerable academics, employees, unions and politicians pushed, lobbied and fought for comprehensive pension reform that would improve transparency and safeguard DB benefits. During this period, many employers, noting the public perception, voluntarily increased pension contributions and accelerated vesting periods (making vesting requirements more favorable to participants). Even so, the stage had been set for a new law that would transform private sector pension plans forever.

ERISA: Everything changes

At the request of President John F. Kennedy, a cabinet-level committee conducted a three-year research project in the early 1960s that provided a framework for the defined benefit pension debate over the next decade. While the committee's report came out nearly 10 years before Congress passed any comprehensive laws, many of the recommendations it put forward became bedrock issues for future legislation. These recommendations, presented in 1965, emphasized vesting and funding standards. They also advocated for benefits portability (ability of participants to take their benefits with them in a job change) and an insurance program for distressed plans. In addition, they introduced stipulations regarding employer stock (i.e., only 10% of plan assets could be a company's own stock), benefit levels and contributions.

While not part of the committee report, fiduciary standards and plan management transparency soon became important concerns as well. Although we may take most of these matters for granted today, some observers considered them dramatic, even excessive, at the time. After a few years of debate, members of Congress started to put forth proposals. Between 1968 and 1974, elected officials proposed dozens of pension-related bills, with all but the last of them failing.²⁷

Finally, on Labor Day, 1974, President Gerald Ford signed into law the Employee Retirement Income Security Act (ERISA), which included almost all aspects of the committee's recommendations of nine years earlier. Rather than a piecemeal, "bandage" approach to solving pension problems, ERISA completely overhauled pension plan law and introduced many standards still in effect today, 40 years later.

Some of the key provisions found within this 200-page law were:

- **Fiduciary Standards** – Trustees were to act in the sole interest of plan participants/beneficiaries.
- **Funding Standards** – For tax benefits, contributions were to be based on calculations from an "enrolled actuary."
- **Reporting and Disclosure** – The Form 5500 filing emerged, allowing regulators to monitor fiduciary and funding standards.
- **Plan Termination Insurance** – ERISA established the Pension Benefit Guaranty Corporation (PBGC) as a safety net for distressed plans, with separate pools for single- and multi-employer plans.
- **Required Plan Provisions** – More generous eligibility rules, and accelerated vesting (now either 10 years, or graded between 5 and 15 years) and participation rules. No employer was required to establish a DB plan, but if it did, it was required to meet certain standards.²⁸

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The focus of ERISA was on protecting participants' benefits and making plans fairer to average workers. In addition (and perhaps surprisingly, to today's observers), the ERISA committee had hoped private sector retirement plan coverage would *expand* with the passage of this law. However, providing a pension plan was still voluntary in the private sector, and ERISA offered no significant incentives to potential DB sponsors. Indeed, the pace of establishing new pension plans immediately began to slow, and sponsors of existing plans found themselves scrambling to comply with all of the new disclosure and funding requirements. Pension coverage increased only marginally – from 45% in 1970 to its all-time peak of 46% in 1980.²⁹

While many consider ERISA the hallmark of pension legislation, in that it mandated more broad changes than any previous pension law had done, some notable provisions discussed at the time were not included. Many advocates hoped for inflation protection and rules on benefits portability, which are common in non-U.S. plans, while others wished public sector plans would be included within ERISA's scope. At the more aggressive level, some had campaigned to make employer-sponsored pensions mandatory.³⁰

Although ERISA improved pension plan funding levels and raised pension oversight standards, the law still created regulatory complexities that subsequent decades of legislation exacerbated.

Post-ERISA: The shift away from DB begins

While ERISA laid the legal footing for corporate DB plans as they exist today, over the following decades, legislators and regulators have continued to pick apart the finer details. Laws and regulations affecting retirement plans ballooned from 200 pages to over 4,000 pages of code and regulation in just 20 years. These legislative changes helped clarify some of the complexities of retirement income security, but also made DB plan sponsorship even less desirable, often to the favor of DC arrangements. In the first two decades after the passage of ERISA, the numbers of employees covered by DC plans tripled, from about 20 million to over 60 million, while DB plan participant counts remained flat, at around 40 million (with about half of participants no longer actively employed by the plan sponsor).³¹

The Revenue Act of 1978 famously created what many would later consider the first formidable alternative to DB plans – the 401(k) plan. Originally designed as a tax-efficient means of saving additional income, this law allowed employees to make pre-tax contributions within an employer-sponsored savings plan. Contribution limits in 401(k) plans during the early 1980s were extremely high, even by today's standards, at \$30,000 per year (and dropped to \$7,000 several years later).

In 1981, Congress began allowing employees to set up Individual Retirement Accounts (IRAs – first introduced with ERISA), even if they were already covered under an employer-sponsored plan, and expanded Employee Stock Ownership Plans (ESOPs). Then, in 1996, a new law established Savings Incentive Match Plans for Employees (SIMPLE plans), an attractive 401(k)-like substitute to DB plans for small companies. Each of these alternatives pushed DB further from relevance. Many sponsors favored DC plans' transferring of investment and longevity risks to participants, and compliance with fiduciary requirements seemed easier with DC plans. Employees liked their discretion over investment options, the portability of benefits and the simplicity of benefits being defined as an account balance.³²

In addition to giving plan sponsors alternatives to the DB plan design for employee retirement benefits, post-ERISA pension legislation also added to the cost and scope of sponsoring DB plans by imposing quicker vesting and participation requirements, among other hurdles for plan qualification. Examples of these tougher standards were minimum eligibility ages being lowered to age 21 and vesting being required after five years of service, unless graded over seven. Along with imposing extra costs on DB plan sponsors who now owed benefits to participants who may not have qualified previously, the new rules threatened the tax-preferred status of small plans, in particular, that were not willing or able to update their existing plan provisions. Further legislation introduced lower tax-deductible employer contribution limits, reducing another advantage of DB plans.

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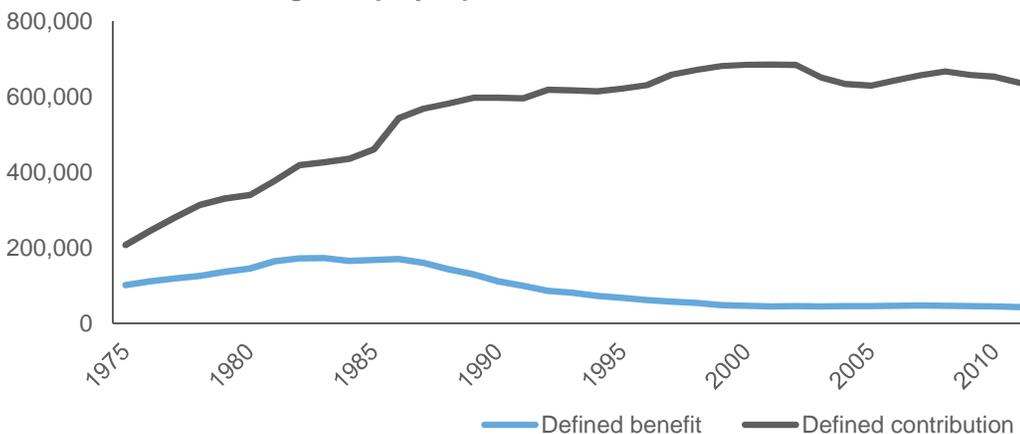
Around the same time, the Financial Accounting Standards Board (FASB) implemented Statement No. 87, which included new rules for reporting pension expense and added a plan's funded status to the corporation's financial statement footnotes. The pension plan now not only affected corporate cash flows, but also had implications for company profits. While FAS-87 heightened the awareness of pension economics, it provided one additional plan-related financial challenge and source of volatility for companies.

Meanwhile, PBGC premiums significantly increased during this period, adding to the expenses of DB plan sponsorship. Although the PBGC was originally intended as a last-resort, rarely used method of benefits security, initial PBGC premiums proved to be inadequate, particularly during the recession of the early 1980s, when many small businesses failed. To meet the new funding need, PBGC premiums that began at \$1 per participant jumped to \$8.60 only 12 years after ERISA was passed. Just two years later, the premium rate had nearly doubled again, to \$16 per participant. At that time, Congress introduced the variable rate premium ("variable" based on funded status), further swelling the overall premiums plan sponsors owed.

As sponsors were navigating the changing regulatory environment, the financial markets opened up an opportunity for sponsors to terminate their DB plans at little cost. Interest rates rose to historic highs in the 1980s, which led to high funded status and relatively inexpensive annuity purchases. Consequently, a flood of DB plan terminations began. Qualified DB plans numbered over 170,000 in 1983 (the all-time high); by 1995, there were fewer than 70,000 DB plans, concurrent with the increase in numbers of DC plans (see Exhibit 1).

While this heightened the awareness of pension economics, it provided one additional plan-related financial challenge and source of volatility for companies.

Exhibit 1: Count of single-employer plans³³



During this time period, it became more common for management to terminate a DB plan in order to recapture pension surpluses for use in other corporate operations (having used the plan as a sort of corporate savings account). There were even instances in which so-called corporate raiders acquired a company in order to seize the surplus pension assets. The Occidental Petroleum Corporation, for example, was able to fund the purchase of Cities Service Company in part by using the surplus assets from Cities' pension plan.³⁴ To address what they saw as abuse of plan assets, lawmakers instituted a hefty 50% excise tax on DB asset reversions in 1990. Afterward, the pace of plan terminations slowed down.³⁵

Despite a general trend toward DC plans during this time, overall DB participation has stayed fairly constant for the last 30 years, as shown in Exhibit 2. Bear in mind, however, that increasing numbers of DB participants are no longer employed by the sponsoring company. In 1980, over 75% of DB participants were active employees. By 2000, the proportion had decreased to 50%, and continues to decline (see Exhibit 3).

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Exhibit 2: Count of single-employer participants (in millions)³⁶

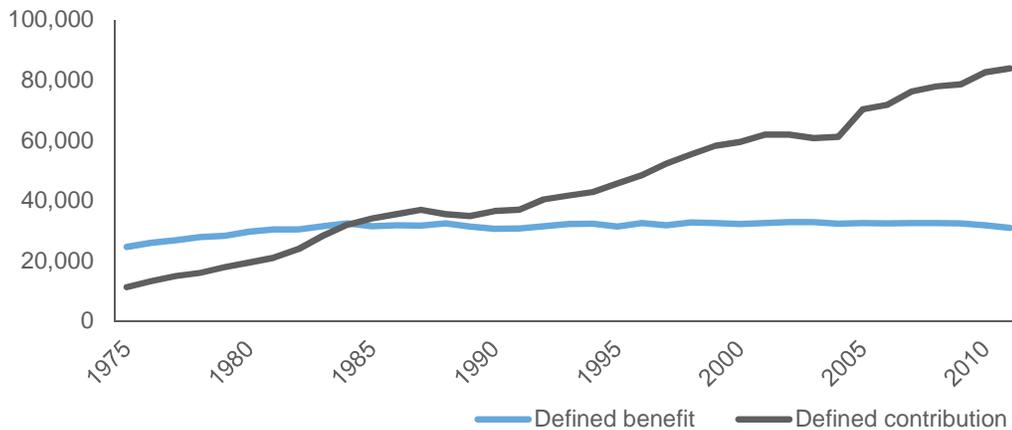
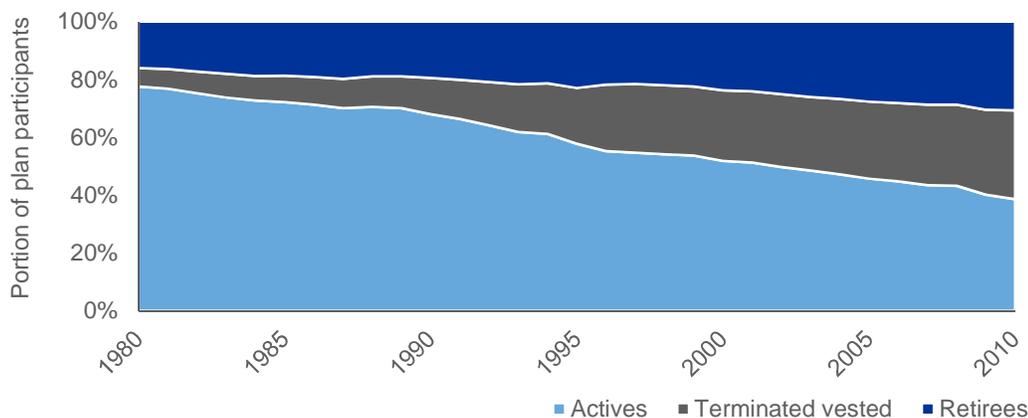


Exhibit 3: Distribution of participants in single-employer DB plans³⁷



Not surprisingly, most large companies that came into existence in the last 30 or 40 years, such as Microsoft, Apple, and Costco, sponsor only DC plans. In contrast, many large corporations in existence since the 1950s or 1960s, such as Exxon, IBM and GE, now sponsor very large, mature DB plans with many legacy liabilities.

PPA: The Pension (and PBGC) Protection Act

The first recession of the 2000s was tough on many large plan sponsors, prompting the PBGC to take over an unprecedented number of distressed plans. In fact, eight of the largest 10 PBGC plan terminations in history occurred between 2001 and 2006, all of them in the airline and steel industries. Falling stock prices and discount rates, plus a recession, culminated in a perfect storm for pensions. Once very well funded, many sponsors found themselves burdened with massive funding shortfalls.³⁸

One reason that sponsors were so unprepared for the post-2000 economic environment was that full funding limit rules, set during the flurry of pension bills in the 1980s, prevented many companies with strong funded positions from contributing to their plans, due to the strict contribution limits. Additional contributions, while not required, could have provided cushions that would help plans in this time of need. The effects of this limit weighed on multi-employer plans even more; many of them had chosen to increase benefits, so that participating employer contributions could continue being tax-deductible, instead of building a surplus. Recently, many multi-employer plans find themselves in dire condition, due in part to the benefit and contribution policies from the 1980s decade.

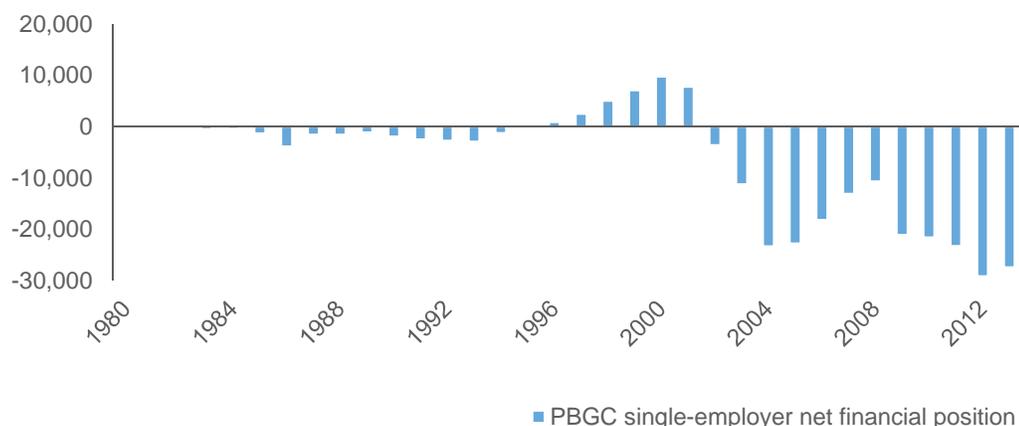
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Another perceived flaw within the ERISA funding rules arose in situations where some plans had been dramatically underfunded for years, despite satisfying the ERISA minimum funding requirements. ERISA and its subsequent amendments had allowed for generous smoothing mechanisms within interest rate, liability and asset calculations. They also allowed for the use of a credit balance, a hypothetical account created when paid contributions exceeded the minimum required in any given year, which gave plan sponsors an opportunity to take contribution holidays in future, potentially challenging, times. This flexibility, however, led in some cases to astonishing deviations from economic reality.

United Airlines, sponsor of the largest DB plan failure in history, offered a case study in ERISA funding rule flaws with its 2005 plan termination. Each of United's four DB plans reported a funding ratio of 94% or better in 2002 (based on ERISA funding rules), and were not required to make contributions at all from 2000 to 2002, while the company increased benefits for many of its employees. Just a couple years later, with United facing bankruptcy, the collective funded status on a plan-termination basis (based on PBGC calculations) was just 42%, leading to claims of nearly \$10 billion falling to the PBGC. Unlike in plan failures prior to ERISA, almost all pension benefits were preserved, but the last-resort safety net was severely strained.^{39 40}

Even though it was in no immediate danger of running out of money, the PBGC experienced its largest shortfall ever (see Exhibit 4) and faced a new long-term crisis. Like the Studebaker crisis 40 years before, this series of distressed terminations gave the final push needed for another overhaul to pension funding rules.

Exhibit 4: PBGC single-employer net financial position (in millions)⁴¹



On August 17, 2006, after a few years of development and debate (much less time than ERISA required), the Pension Protection Act was signed into law by President George W. Bush with strong bipartisan support. The 900 pages of legislation covered a wide variety of retirement topics. DB sponsors saw tougher funding requirements, benefit restrictions and additional administrative tasks.

In contrast, DC sponsors welcomed updates that included auto-enrollment, auto-escalation, continuation of indexed contribution limits and default investment options. In a similar vein to rulings of previous decades, legislators implicitly declared their preference for safeguarding (rather than incentivizing) traditional pension benefits, while promoting the DC plan as a primary retirement vehicle. Hybrid plans, such as cash balance plans and pension equity plans, which are legally DB plans (but offer DC-like benefits), also experienced favorable legislation for future growth.⁴²

For corporate DB sponsors, PPA rewrote contribution requirements to be more market-based, with much less smoothing. Discount rates for liabilities and asset gains and losses could be smoothed only up to two years. Unfunded liabilities were to be paid in full over seven years, and if sponsors did not meet certain funding thresholds, the plan would face benefits restrictions, such as eliminating lump sum options or having to eliminate benefit accruals for plan participants (to preserve plan solvency). In addition, the plan's funding level could limit a sponsor's ability to use credit balances to satisfy funding requirements, offering only limited flexibility year-to-year.

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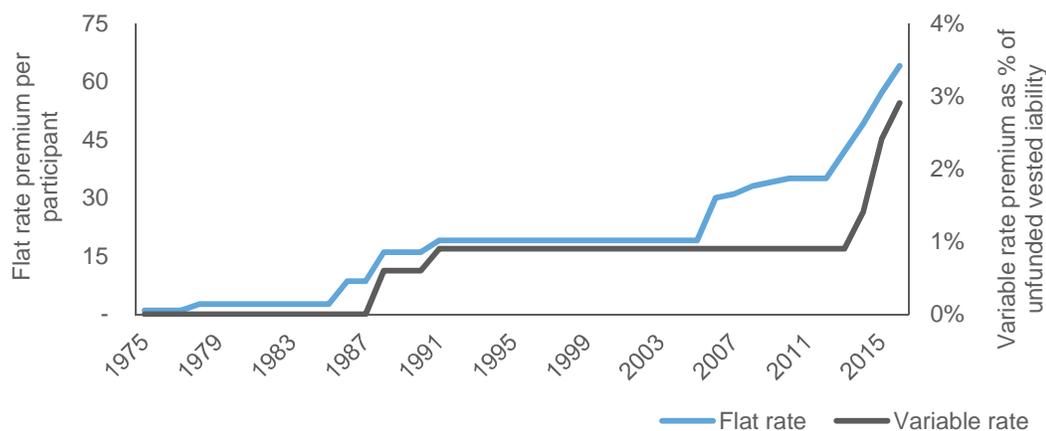
Aimed at DB plan administration, funding and participant protections, PPA did not affect plan financial reporting (i.e., accounting), although the FASB did release a new statement one month after Congress passed PPA. This statement – No. 158 (now Accounting Standards Codification [ASC] 715) – made DB balance sheet disclosures more transparent, eliminating balance sheet smoothing by defining “funded status” as the fair value of assets minus liabilities (discounted with a spot curve based on high-quality bonds). These two major changes became fully effective in 2008, which just happened to coincide with the global financial crisis and the second recession of the decade. The new rules put in place to safeguard pensions and improve transparency would immediately be tested.

Post-PPA: Sponsors shift focus to risk management

Given the changes to both funding and accounting standards, the timing of the financial crisis was disastrous: Hefty equity losses and historically low interest rates crippled DB plan funded levels all over again. Congress did not take long to amend PPA, modifying the originally tougher funding rules less than a year after they became effective. Since PPA went into effect in 2008, the government has provided five different instances of funding relief, the latest two rounds of which began constraining liability interest rates to a corridor around the 25-year average. This provision offers sponsors more flexibility in paying contributions, but essentially removes a key component of PPA that set interest rates near current market rates.

Surprisingly, the greatest recession in decades did not seem to accelerate PBGC takeovers. In fact, since 2008, the PBGC has added only one DB plan failure (Delphi) to its top 10 list. In fact, the PBGC single-employer program projections show improvement over the next 10 years. This projected improvement is partly due to ballooning PBGC premiums, as passed in MAP-21 in 2012, and to the Bipartisan Budget Act of 2013 (see Exhibit 5).⁴³

Exhibit 5: PBGC premium rate history⁴⁴



After two recent recessions, new funding and disclosure requirements, and increased PBGC premiums, the risks pension plans pose to corporations and their shareholders have become ubiquitous topics in DB investment committee meetings. Plan sponsors are taking a close look at how they can reduce or manage the burdens their DB plans have placed on their organizations. In response, several risk-management trends have emerged, and will continue to evolve over the coming years.

Hybrid plans, such as cash balance or pension equity plans, combine characteristics of DB and DC and are becoming much more prominent, with hundreds of new plans beginning each year. These plans can reduce risk by transferring longevity risk and even investment risk to the participant.⁴⁵ They are attractive to employers for their simplicity, portability and potentially lower cost (depending on benefit formula). They have become particularly popular among smaller sponsors for their tax-effectiveness.⁴⁶

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Plan sponsors are taking a close look at how they can reduce or manage the burdens their DB plans have placed on their organizations.

Still legally DB plans, hybrid plans have been around for almost 30 years, but roadblocks have hampered their growth. In particular, concerns about age discrimination and transitions from traditional benefits have left much room for individual interpretation and the threat of lawsuits. Regulatory guidance was limited throughout the 1980s and 1990s, but favorable court rulings, such as *Cooper v. IBM*, and the passage of PPA have helped to ameliorate some of these concerns and foster new growth. According to DB plan filings, around 1,300 of these plans existed in 2001. That number doubled in just three years and then continued in exponential growth, especially among small to mid-size businesses. As of 2012, nearly 10,000 cash balance plans existed, about a quarter of all single-employer DB plans. Recently released IRS regulations, which offer favorable provisions to hybrid plan sponsors, will likely further quicken the pace.⁴⁷

A second risk-management trend is that sponsors continue to close plans to new entrants or freeze benefit accruals for all participants. In 2003, just 10% of qualified DB plans were hard-frozen. By 2011, that number had jumped to 32%. The freezing of plans continues to increase, but, still, relatively few plan sponsors are completely exiting the DB system. Freezing may be the first step toward plan termination, but most sponsors have no immediate plans to exit the system altogether, as many did in the 1980s.⁴⁸

Many plan sponsors have begun not only to adopt de-risking benefit policies, but also to implement investment strategies for managing pension risks. Liability-driven investing (LDI) strategies have been around for decades (Russell first published a paper on LDI in 1990⁴⁹), but have recently become much more relevant with the enactment of more market-driven funding and accounting standards, which brought significant interest rate risk to sponsors. Although recent funding relief measures have temporarily obscured the market value of the plan liabilities,⁵⁰ the best way to mitigate interest rate risk is by investing in assets that mimic the interest rate sensitivity of corresponding liabilities. Doing so will help promote funded status and contribution stability. Asset allocations that incorporate glide paths that dynamically shift with funded status have become industry standard.

Finally, plan sponsors have begun, in great numbers, to offload liabilities through risk transfers. Only in the last few years has risk transfer again captured headlines. In 2012, Ford announced plans to offer lump sums to retirees, while Verizon announced a massive annuity purchase. General Motors (GM) did both, and to greater degrees. Dozens of other firms have offered lump sum cash-outs to previously terminated (but not retired) participants since 2012.

There are typically two motivations for risk transfer. First, it reduces ongoing costs – particularly, high PBGC premiums – and it makes the plan more efficient to run. Second, it reduces the volatility and risk associated with the plan, most notably for plans whose liabilities are dwarfing other company financials.⁵¹

Each of these trends demonstrates how sponsors have adapted to DB-related risk while preserving earned benefits for current and former employees. Many still strongly value the benefits DB plans offer and are committed to keeping their DB plans open indefinitely. When properly managed, DB plans offer significant benefits to participants, providing for lifetime income within a system that pools risks.

Final thoughts

The rapid rise of corporate DB plans is in the past; the widely publicized fall of private sector DB plans is happening slowly. DB plans still provide benefits to around 40 million participants in the U.S., a figure that has been more or less constant for more than three decades. DB plan assets make up a non-trivial \$3.1 trillion of our financial markets, and most existing plans continue to offer benefits to new and existing employees.

The original reasons for adopting DB plans concerned workforce attraction and retention, tax efficiencies and union demands. Each of these factors still plays a part today, but they are offset by arduous regulatory requirements. The regulations are a double-edged sword; while they have made plan participants' past accrued benefits secure, they have also made sponsorship more burdensome and thus unappealing to would-be adopters – and that has likely denied would-be participants opportunities to accrue meaningful retirement lifetime income offered in a DB system.

As of 2012, nearly 10,000 cash balance plans existed, about a quarter of all single-employer DB plans.

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The fact that DB plans have lost popularity over the last 40 years does not alone constitute a retirement crisis. In fact, a well-designed and executed DC plan can certainly replace as much income in retirement as a traditional DB plan. However, the optionality within DC plans will always be a key differentiator. DB plans are employer-driven, and employees have little discretion. With DC plans, employees make decisions (e.g., savings rate, asset allocation) that largely determine retirement outcome, for better or worse.

It is impossible to know what the coming decades will hold for the U.S. retirement system, but we do have some clues. DC plans are evolving to incorporate lifetime income products and have higher participation rates – both inherent strengths of DB plans. At the same time, DB plans are shifting to hybrid plans that offer benefits portability and sharing of risks with participants – both strengths of the DC system. In reality, the systems are borrowing ideas from each other as they seek to secure their footholds for future growth.

As market conditions continue to change, and as pension laws evolve, we can expect to see ongoing innovation and adaptation by DB plan sponsors and their advisors. Understanding how the U.S. retirement industry has developed over the last century should provide enhanced perspective to sponsors as they consider the best route forward.

The fact that DB plans have lost popularity over the last 40 years does not alone constitute a retirement crisis.

We can expect to see ongoing innovation and adaptation by DB plan sponsors and their advisors.

¹ 2014 Financial Accounts of the Funds, Federal Reserve, Table L.117.b, as of Q2 2014, and U.S. Department of Labor, “Private Pension Plan Bulletin,” October 2014

² U.S. Department of Labor, “Private Pension Plan Bulletin,” October 2014; and Bureau of Labor Statistics

³ PBGC 2012 insurance data tables

⁴ Ibid.

⁵ 2014 Financial Accounts of the Funds, Federal Reserve, Table L.117.b

⁶ Bureau of Labor Statistics, Retirement Benefits, National Compensation Survey, March 2013

⁷ 2014 Financial Accounts of the Funds, Federal Reserve, Table L.118.b

⁸ McCourt, S.P., “Defined Benefit and Defined Contribution Plans: A History, Market Overview and Comparative Analysis,” *Benefits and Compensation Digest*, February 2006

⁹ Allen, E., J. Melone, J. Rosenbloom and D. Mahoney, *Retirement Plans: 401(k)s, IRAs, and Other Deferred Compensation*, 2008, McGraw-Hill/Irwin, Chapter 1

¹⁰ 98th U.S. Congress, “The Employee Retirement Income Security Act of 1974: The First Decade,” August 1984, p. 2

¹¹ Ibid., p. 3

¹² Seburn, P.W., “Evolution of employer-provided defined benefit pensions,” *Monthly Labor Review*, December 1991, pp. 18–19

¹³ Ibid., p. 19

¹⁴ 98th U.S. Congress, p. 3

¹⁵ Employee Benefit Research Institute, “History of Pension Plans,” March 1998

¹⁶ Ibid., pp. 19–20

¹⁷ Allen et al., p. 10

¹⁸ IRS, “Corporation Income Tax Brackets and Rates, 1909–2002.” (Note that this does not include excess profits taxes, which further increased the tax burden, particularly during war times)

¹⁹ Seburn, pp. 19–20

²⁰ Allen et al., pp. 10–11

²¹ Ibid., pp. 11–13

²² Employee Benefit Research Institute, “History of Pension Plans,” March 1998

²³ Seburn, pp. 20–21

²⁴ 98th U.S. Congress, p. 6

²⁵ Ibid., pp. 7–8

²⁶ Seburn, pp. 20–21

²⁷ 98th U.S. Congress, pp. 9–12

²⁸ Ibid.

²⁹ Employee Benefit Research Institute, “History of Pension Plans,” March 1998

³⁰ 98th U.S. Congress, pp. 30–31

³¹ Sirkin, Michael S., “The 20 Year History of ERISA,” *St. John’s Law Review*, Volume 68, Issue 2

³² The Small Business Job Protection Act established SIMPLE plans

³³ Source: Department of Labor, Private Pension Plan Bulletins

³⁴ See Williams, Winston. "Raking in Billions from the Company Pension Plan", *The New York Times* 3 Nov. 1985

³⁵ U.S. Department of Labor, "Private Pension Plan Bulletin – Abstract of 1998 Form 5500 Annual Reports", Winter 2001-2002

³⁶ Source: Department of Labor, Private Pension Plan Bulletins

³⁷ Ibid.

³⁸ PBGC 2012 data insurance book

³⁹ PBGC, "Testimony of Bradley D. Belt (Executive Director) before the U.S Senate Committee on Finance", June 7, 2005

⁴⁰ While the PBGC is government-sponsored, it is not legally backed by the government or U.S. taxpayers. If it were to fail, no other protection exists under current law, although some speculate that the U.S. government would step in to bail out the PBGC.

⁴¹ Source: PBGC data insurance books

⁴² A statement issued by President George W. Bush at the time PPA was passed captures this point: "The message from this administration, from those of us up here today, is this: You should keep the promises you make to your workers. If you offer a private pension plan to your employees, you have a duty to set aside enough money now so your workers will get what they've been promised when they retire." see <http://georgewbush-whitehouse.archives.gov/news/releases/2006/08/20060817-1.html>, August 17, 2006

⁴³ PBGC, "FY 2013 PBGC Projections Report". The PBGC's multiemployer program is shown to have a 90% chance of failure by 2025 and 99% chance of failure by 2033.

⁴⁴ Source: PBGC data insurance tables, and <http://www.pbgc.gov/prac/prem/premium-rates.html> on November 13, 2014

⁴⁵ Some types of hybrid plans use interest crediting rates that are based on the market return of asset or some other market benchmark. Variable annuity plans have this characteristic.

⁴⁶ For more information on cash balance plans and how it works in the context of LDI, see Owens, J., M. Jaugietis and M. Sylvanus, "LDI for Cash Balance Plans," Russell Research, June 2014

⁴⁷ U.S. Department of Labor, "Private Pension Plan Bulletin," June 2013

⁴⁸ PBGC 2012 data insurance tables

⁴⁹ See Ezra, D., "Choosing a Liability for Surplus Optimization Purposes," Russell Research, November 1990

⁵⁰ See Barbash, J., "DB plan funding in a pension stabilization world," Russell Research, 2014

⁵¹ See Owens, J., "Risk Transfer Options for Defined Benefit Plan Sponsors," Russell Research, June 2013

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