

How Defined Benefit Plans Have Changed for Municipal Employees over the Past Generation or So

We've been calculating public DB plan benefits since 1994, mostly school employees back then, but in recent years increasingly other groups: general employees, police, firefighters and occasionally zoo keepers, life-guards, and other random groups.

Up into the 1990s most plan changes *improved* benefits. Politicians could curry favor with labor unions and citizens in general by offering future improvements that cost *them* nothing to offer. But then came long-term solvency calculations, and reductions in staffing, that showed that a lot of public plans were in danger.

If you're reading this, you probably know about all that. So then, in the 2000s, with the financial chickens coming home to roost, plan features began changing. Some plans, more in tune with the financial risks than most, started cutting back in the 1990s already, or even sooner. Some laggards are still doing it now, though mostly things have stabilized, at least in terms of DB plans themselves. Public plans are now within shouting distance of solvency, if not already there.

This report looks at some of the common ways in which this outcome was achieved, and which were most commonly used, by whom.

Some Highlights

We examined 223 Defined Benefit plans that serve municipal employees. A majority (125) are state-sponsored plans, including statewide teacher plans as well as other

state-defined plans that cover other categories of municipal employees. The rest of the plans (98) are locally administered and modified. We looked at each plan to determine whether:

- They converted to something other than a traditional DB plan;
- They had otherwise made their plan less beneficial to participants;
- They made the plan better for participants; or
- There was no change in the plan

Here are a few highlights from this research.

- Although there used to be widespread expectations that DB plans were on their way out, only 9% of the 223 total DB plans converted to Defined Contribution, Hybrid, or Cash Balance plans (10% of state plans and 7% of local plans).
- State- and locally-sponsored DB plans had the same ratio of plans with improved benefits (12%).
- Local plans had a distinctly higher ratio of unchanged plans (24%) versus statewide plans (19%).
- State plans had somewhat higher ratios of plans that had been made riskier or otherwise less beneficial to the average participant, whether by converting to a different kind of plan or by changing DB plan provisions (69% to 64%).
- Not counting employee contributions and COLA provisions, which we did not study due to lack of historical data (though we know there have been many changes, mostly detrimental), the most common detrimental changes were increases to or elimination of early retirement ages, and somewhat less so, increases to normal retirement ages. Most plans



changed one or both of these, though small percentages made improvements there.

- Detrimental changes were less common in features that define the benefit calculations. Benefit maximums don't even exist in most public plans, except for police and firefighter plans, so only single-digit percentages of either higher or lower maximums have taken place in that category.
- A majority of plans did not tinker with the definition of final compensation or the benefit factor itself. But many did, and most of these were changes in a direction unfavorable to participants.
- We also looked at changes in plans grouped by type of employee: teachers, general employees, and safety employees, plus a couple of combinations of those. The details appear on page 7 of this report. Note that plans for safety officers were most likely (32%) to be left alone or actually improved overall, followed by teachers (30%) and general employees (28%). Plans covering combinations did not do as well (25%).

Need More Detail?

We barely scraped the surface of this kind of analysis.

The data we've collected could be sliced in many different ways, some of which might be even more useful to you.

Or you might like to see a similar analysis for a different group of plans, specified by geographic area, size of plan, local plans only, or in some other way.

Recent Studies and News:

[How Many Public Workers without Social Security Could Fall Short?](#), by Jean-Pierre Aubry, for the Boston Center for Retirement Research, April 2022. This report says "about 5 million state and local workers are not covered by Social Security. ... The workers who lose out are those who leave in mid-career".

[Forensic Analysis of Pension Funding: A Tool for Policymakers](#), by Jean-Pierre Aubry, for the Boston Center for Retirement Research, April 2022. "One underappreciated cause is 'legacy debt' – unfunded liabilities accumulated long ago, before plans adopted modern funding practices. ... In a sample of plans with particularly low funded ratios, legacy debt averaged more than 40 percent of unfunded liabilities."

[The Economic Benefit of Public Pension Payments in Small Towns and Rural America](#), by Tyler Bond, Nathan Chobo, and Dan Doonan, for the National Institute for Retirement Security, July 2022. "Public pension benefit dollars represent between one and three percent of GDP on average in the 2,922 counties studied. Rural counties have the highest percentages of their populations receiving public pension benefits."

[Public Pensions Contend with Falling Markets and Rising Inflation](#), by Jean-Pierre Aubry, for the Boston Center for Retirement Research, August 2022. "FY 2022 has been hard for state and local pension plans, with large investment losses and rising outlays due to inflation. The aggregate funded ratio fell from 78 percent to 74 percent."

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– Kristin Sherman and Chuck Yanikoski, editors

If we didn't catch you at the annual



Conference this September, we hope to meet next year!

Historical Perspective: What Happened and Why

Significantly, most of the plan changes we've reviewed happened in the decade from 2005 to 2015. These years encompass the Great Recession, which not only whip-sawed the investment markets but also led to reductions in force (RIFs) that erased large portions of municipal workers from the employment rolls, without necessarily reducing the cost of benefits they accrued.

Both changes increased the risk to plan sponsors. Increased financial market volatility, as we saw back then, is always risky, but in addition, the idea that plans could expect to average, say, an 8% net return over a long span of time, was brought back down to reality. But lower investment expectations mean lower projected asset growth, without any corresponding change in future benefits, in a DB plan. Most of these plans weren't particularly solvent to start with, so actuarial projections of lower future assets meant that greater projections of future liabilities (i.e., future benefit payments) had to be handled ... not by using some fiscal magic wand, but by actually reducing the benefits offered in the plan. Reducing benefits to current employees was, for political and morale reasons, largely a non-starter. But reducing benefits for future hires was much less painful. This was the path taken in almost all cases.

As shown in Chart 2 (page 7), a significant majority of plans (two thirds) reduced the value of their plans for new participants:

- 58% made net negative changes in the terms of their DB plan – that is, either entirely negative changes or a mix of positive and negative changes that balanced toward the negative.
- 9% changed either to a purely Defined Contribution model, or to a Hybrid model or Cash Balance model. This meant a change from a benefit that is guaranteed to one that is only partially guaranteed or not guaranteed at all. There is risk in all kinds of retirement plans. One of the biggest unknowns during the decades of time most employees spend between entering a plan and the death of the last beneficiary of the plan, is investment performance. In a traditional DB plan, the employer assumes that risk by “defining” the benefit. In a Defined Contribution or a mixed (Hybrid or Cash Balance) plan, some or all of the risk falls on the participant – not only the risk of poor financial market performance, but the added risk of making poor investment choices, which is higher for individual employees (who are mostly not specialists in finance) compared to the investment professionals who manage DB plan portfolios.

As far back as the 1980s and 1990s, there were widespread expectations that alternatives to DB plans would generally become the norm. This is what happened in the private sector (mostly 401(k) plans instead of traditional pensions). But in the public sector, which is highly unionized and which is governed by boards that have to answer to the public, this kind of change met enormous resistance, and it has *not* become the norm. As noted above, only 9% of plans in our study changed to one of those models. So going forward here, that's enough said about them.

Instead, let's look more closely at what proportion of plans are using the five techniques this study covers for reducing (or in some cases improving) the benefit to plan participants.

Methodological Notes

For many millions of dollars we could do an exhaustive analysis. But that isn't what's happening here.

Instead, we collected data on 223 of the larger public DB plans, both state-level plans for municipal employees (incl. teachers) and locally administered plans (mostly large cities and state capitals). We looked at changes made in these plans, some as far back as the early 1980s, others just in the last few years, and some undergoing two, three, or more overhauls over the course of recent decades.

Our central question:

How has the plan offered to new hires changed between Then and Now?

We looked at five significant features:

- **Benefit calculation factor.**
- **Maximum benefit as a percentage of AFC.**
- **Normal retirement age.**
- **Span of years over which Average Financial Compensation (AFC) is calculated**
- **Early retirement age.**

We do not include changes in employee contribution rates and cost of living adjustments (COLAs), though these matter. These factors often change from year to year, or do not apply at all.¹ It is also almost impossible to get useful historical data on these features for most plans. This is unfortunate, because both make a big difference to participants, but can also be adjusted in a beneficial direction to offset or partially offset the effect of other plan changes.

We weighted, somewhat arbitrarily, the importance of these features from the participant's viewpoint: This comes into play in evaluating whether plan changes, on balance, are a net positive or net negative for participants. We realize, of course, that the measurement of change can be done in many ways. But as you will see in the data itself, there are signs that our method is in the ballpark. The weights we used for each feature are:

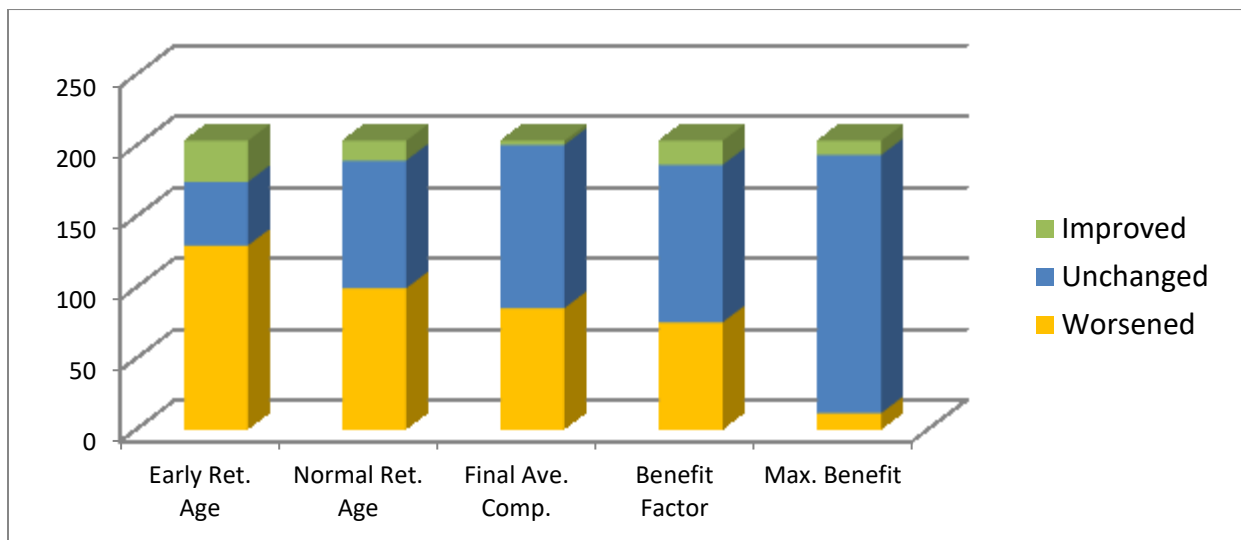
- **Normal retirement age: 22%**
- **Early retirement age: 9%**
- **Span of years over which Average Financial Compensation (AFC) is calculated: 13%**
- **Benefit calculation factor: 31%**
- **Maximum benefit as a percentage of AFC: 25%**

¹ See our earlier report on [COLAs for Local Government Employees \(October 2021\)](#)

Which of the 5 cost-saving techniques for plan sponsors have the biggest impact on employees?

1. **Benefit calculation factor:** the simplest and most common benefit formula for calculating a DB plan benefit is: Average Final Compensation (AFC) times Years of Service times a Benefit Factor. If the Benefit Factor is 2.50% the monthly benefit paid will be double what it would be with a 1.25% factor.
2. **Maximum benefit as a percentage of AFC:** Many plans have benefit caps defined as a percentage of Average Final Compensation. If the benefit factor is 2.5%, and there is no cap for it, someone who retired with over 40 years of service would receive a larger pension than their working compensation was. But if you cap the benefit at 75% of compensation, retirees with 30 years of service hit that limit, and anyone working more years gets no credit for the extra years (except in that their compensation probably increased). This is often a strong disincentive for employees to work past 30 years, in this case. This saves the plan sponsor money, but will also result in the most experienced employees leaving (though this is sometimes the intent, since it can be financially beneficial).
3. **Normal retirement age.** All plans define a Normal Retirement Age (or a variety of ages depending on years of service at each age). But most plans also define an Early Retirement Age. If you choose to retire early, the Benefit Factor is decreased, based on how many years early you retire. If the Normal Retirement Age is increased you have to work longer to avoid the early retirement penalty. This matters because a large proportion of retirements (one industry estimate says 40%) are involuntary, due to ill health, ill health of a spouse, lay-offs, or other unavoidable events). Plan sponsors benefit, but employees are disadvantaged, often at a time when they can least afford to be.
4. **Span of years over which Average Financial Compensation (AFC) is calculated:** Let's say, in normal times, employee compensation goes up 3% a year. Now, if the DB plan averages AFC over the last three years, it is in effect using the compensation from the middle of those three years instead of the final year, so it's 3% lower than if just the final year of compensation was used. If a five-year average is used, then in effect the compensation for the third-to-last year is being used. So going from a 1-year average to a 3-year average reduces the benefit by 3% (in this example) and by another 3% by going from a 3-year to a 5-year average. And this applies to every participant in the affected plan tier. So making one of these changes reduces the plan tier liabilities by 3%, and also reduces employee pensions by that amount.
5. **Early retirement age.** Some plans have no early retirement age, so if you retire before the Normal Retirement Age, you cannot collect a benefit until you reach that age. This is a hardship for people who want or need to leave their jobs, for whatever reason. So having an early retirement age defined in the plan instead of no such definition is a benefit. It means people can start collecting a benefit early which, even with an early retirement reduction, can be critically important to some of them. (Imagine, for example, an employee with a fatal health diagnosis). The lower the early retirement age, the greater the number of participants that have the opportunity to make the choice that best suits them. Depending on the size of the early retirement penalty, this change can be neutral to the finances of the plan, but in most cases the penalty is small enough so that the participant can benefit financially. Eliminating or increasing the Early Retirement Age usually hurts participants in terms of both flexibility in personal planning and pension amount.

Chart 1: Which of these factors have changed in which direction, overall? (excludes plans converted to DC / Hybrid/ Cash Balance)



A few observations:

- By far, most of the changes (the green and orange sections) were adverse (orange) to participants.
- Changes were most prevalent in retirement ages and were overwhelmingly adverse, more so than in any other categories. Since changes apply only to new hires, changes in these factors often don't register as all that important, at least not to young employees, which makes them easier to implement, politically. However, this generalization is not true in Safety occupations (police & firefighters), since the ability to retire at full benefits after just 20 or 25 years is a big draw in recruitment.
- Changes in the basic benefit formula (final average compensation and benefit factor) are the next most common, but in both categories a majority of plans, by small margins, did not change in either direction. These items, especially a change in benefit factor, are easily recognized as adverse. New hires maybe won't know about the change at the time of hire, but will probably find out soon.
- Changes to maximum benefit have been rare, and about evenly split between improvements and worsenings. However, when benefit factors decrease, the need for a maximum decreases or disappears. Plans with benefit factors less than 2% rarely have maximums. So this data is not as informative as it might appear.
- By our rankings, on the previous page, plan sponsors appear to have been more comfortable making changes to retirement ages that are somewhat less impactful for participants, as opposed to the more impactful and conspicuous changes to benefit calculations. This tendency would be normal in any decision about changing any employee benefit. Sometimes one plan feature was improved to help offset the emotional impact of adverse changes. The improvements most often implemented were earlier retirement age (not so hard for the plan sponsor to offer) and benefit factor (more painful to offer). These trade-offs are often made in negotiations with unions, who sometimes will accept an important adverse change if offset by a less expensive beneficial change. In reality, the impact of any such a trade, or for that matter any given change, will matter a lot or a little or not at all for any given individual, depending on their circumstances, including their future career intentions. So the amount of pushback unions get from their members is highly variable, and therefore, so is the amount of pushback passed along to the plan sponsors. And of course with changes to state-sponsored plans, local influence is minimal.

Overall results

Chart 2: Results of Changes in Municipal Employee Plans Overall

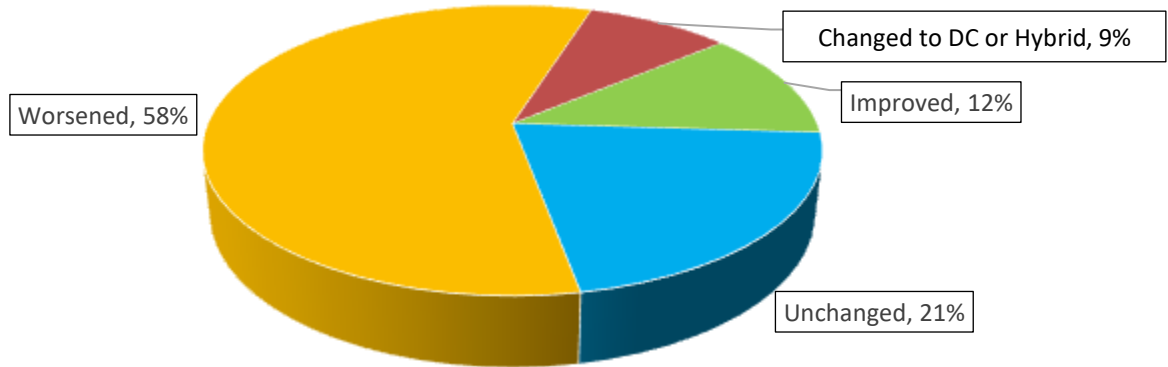


Chart 3: Results of Changes in 125 State-Defined Employee Plans

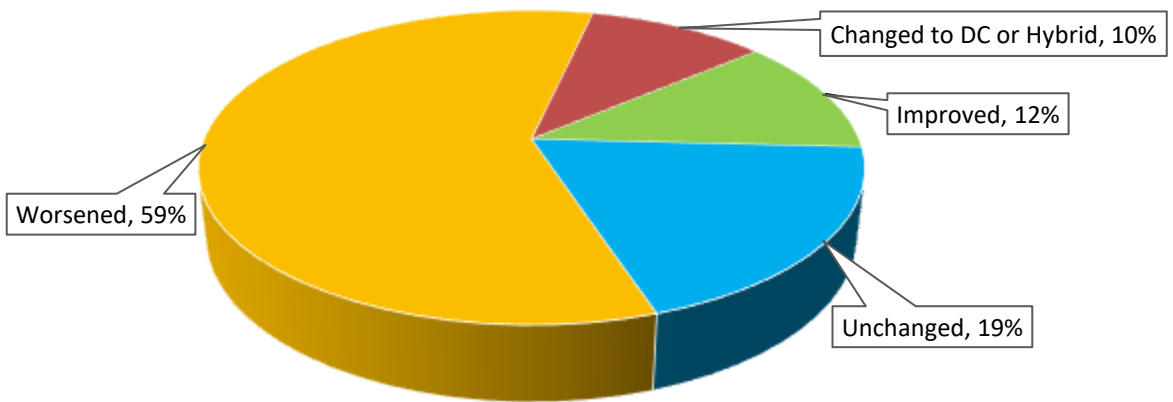
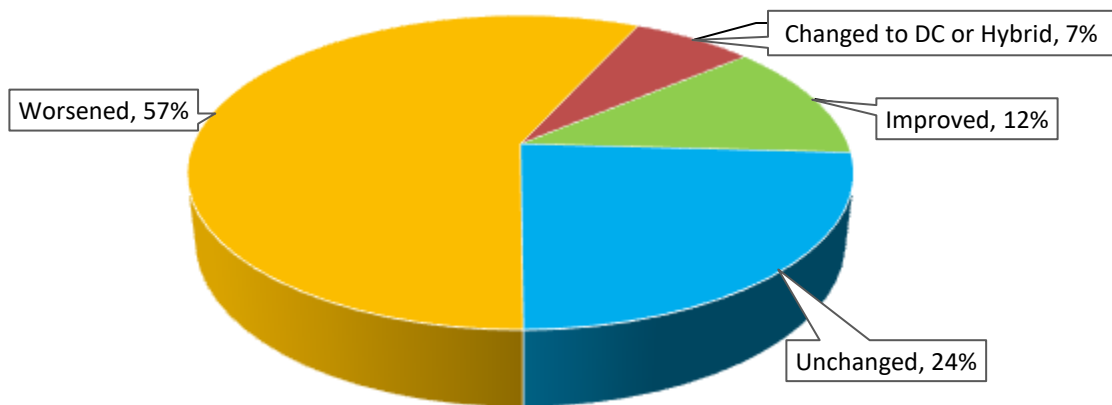
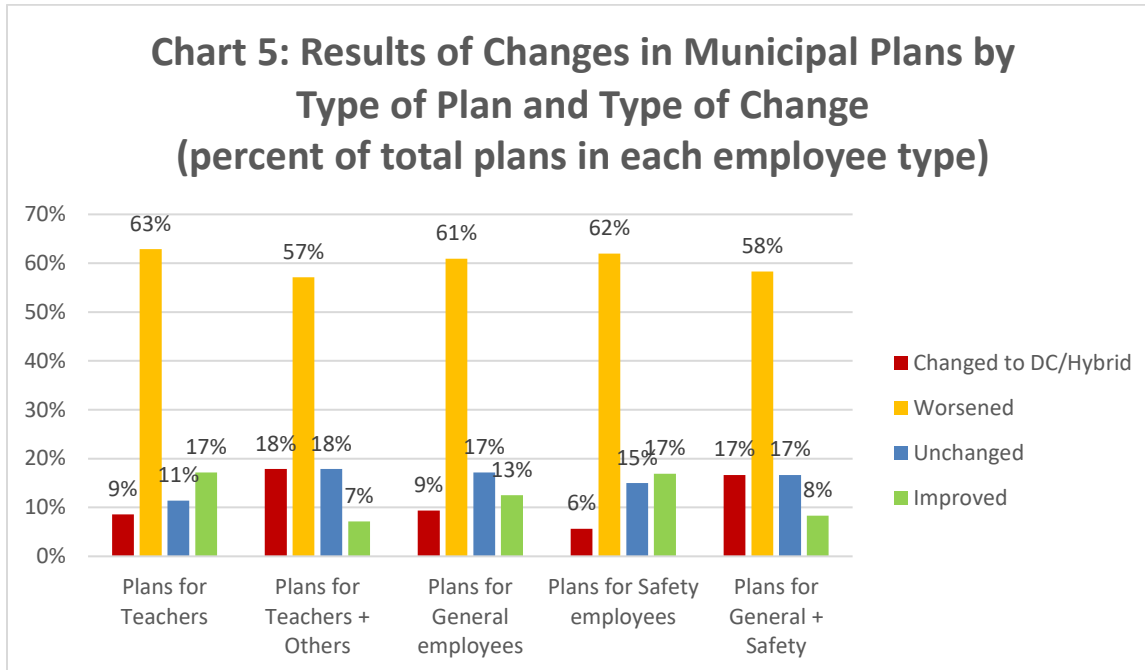


Chart 4: Results of Changes in 98 Locally-Defined Employee Plans



When we split the whole group into state-sponsored vs. locally sponsored plans, we get very similar results for both groups. This suggests that we're looking at legitimate trends, not artificial results based on methodology. Note, however, that municipality-run plans are somewhat less likely to convert to riskier alternatives, or make other negative changes – none of which is surprising.

And if you are looking for bigger differences, you'll find them in the effects of changes made in plans serving different classes of employees.



Points of interest:

- **Plans for Safety Officers (police and firefighters)**, when standing separate from other municipal employees, have the best record of staying the same or being improved (32%), and easily the lowest rate of being converted to riskier defined contribution, hybrid, or cash balance plans (6%). This probably reflects these official protectors of society carrying extra clout because of their responsibilities and their capabilities. They're the local heroes of municipal life, despite increasing criticism of police. They also often have strong unions.
- **Plans for other unified groups (teachers, and also general employees)** do relatively well, too. They total 28% and 30% respectively in staying the same or improving in their DB plans, and both are also relatively low (9% each) in having their plans converted to something riskier. Teachers may not enjoy quite as high esteem as police and firefighters, but since quality of teaching strongly affects quality of education, which is highly valued by many citizens, teachers have a little extra glow to them. And teachers also have strong unions, locally and statewide. This may not be equally true of other public servants, but they, too, are in the public eye and perform necessary public functions, and though their unions are not as well known, they, too, are capable of mobilizing their members politically. Not to mention that the most powerful decision-makers are often personally affected by decisions about pensions for general employees, so you might find a thumb on the scale here and there.
- **Plans for mixed groups** (teachers + other employees; general + safety employees) show little ability to get improvements for their plans. Their plans are also exceptionally likely to be converted to plans with fewer guaranteed benefits. This seems counter-intuitive, as you have more kinds of advocates, and more unions, involved in the politics of it. But it appears that more does not mean more effective – unions that represent all the members of a given plan apparently tend to represent their constituency more strongly, as opposed to getting separate unions to cooperate in that effort.
- **Still, the elephant in the room is that for all groups, reductions in benefits over the last decade or several decades is the norm.** This probably reflects the reality that despite employee and union opposition to benefit reductions, the financial realities mostly have dictated givebacks of the often over-generous and unfunded promises that were made in the earlier life of these plans.